BULLETIN

MADRAS DEVELOPMENT SEMINAR SERIES

VOLUME III NUMBER 11 NOVEMBER 1973

74, SECOND MAIN ROAD, GANDHINAGAR,
ADYAR, MADRAS-20.

MONTHLY BULLETIN

Vol. III No. 10

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EDITORIAL—SOME HIGHLIGHTS

I. General Economic Scene

State :

As the State Fifth Plan resources are now set at Rs. 1,200 crores, the State Planning Commission proposes, as stated in the Draft Memorandum discussed by the Chairman with the Union Planning Commission (See page 613 of Vol. III of the Bulletin) to hold a series of meetings with each District Planning Office in order to review the District Plan established for each development district and arrive at the Fifth Plan for the district which will be co-ordinated with the State Plan and be consistent with the resources for the State outlay available. The district Perspective Plans have now been published and transmitted to the Chairman of the State Planning Commission. They are being used for developing the Perspective Plan for the State for the ten year period and will be used in the review and establishment of the Fifth Plan for each district. One of the important steps forward in the Fifth Plan is the regional approach with other Southern States in the matter of power development (which will be reviewed under the section on Power later) and the Western Ghat development project. At a meeting of the State representatives from Tamil Nadu, Kerala and Mysore and the Union Planning Commission and the Ministry of Power and Irrigation, in mid August, it was agreed to set up a Western Ghat Development Organisation which will harness the water resources of the Ghat region for irrigation and power. The Secretary of the Union Ministry of Power and Irrigation will head the Organisation and help in co-ordination of the various surveys, feasibility studies and project preparation work to be undertaken in the area by the three States. Some work has been started by Mysore on the Malnad project and the other States will now be undertaking similar investigations and studies under the regional programme.

Perspective Plan : The basic frame of the Perspective Plan being established by the State Planning Commission (See Vol. III pages 547-548) envisages an increase in State income from an estimated Rs. 3,100 crores in 1973-74 to Rs. 7,024 crores at the end of the Plan period in 1974-84. at 1970-71 prices in order to double the per capita real income in the State. The population estimates for the period are 440 lakhs in 1973-74 increasing to 537 lakhs in 1983-84, which gives an increase in per capita income at constant prices from Rs. 654 to Rs. 1,308. To attain these income targets, using the incremental capital output ratio (ICOR) of 2.9:1 of the Fourth Plan period for the Fifth Plan (See Vol III page 307) and 2.25 : 1 for the Sixth Plan (as the heavy investment projects are expected to be completed in the Fifth Plan and the Sixth Plan Strategy will concentrate on short gestation period and high employment potential investments), the aggregate investment which is estimated at Rs 400 crores in 1973-74 is planned to be increased to Rs. 1,652 crores in 1983-84. This involves a falling marginal rate of investment from 50 per cent at the start of the Plan to 30 per cent at its end, but a steady rise in the savings rate from 14.3 to

25.3 per cent. The extent to which these magnitudes are consistent with the objectives of the Perspective Plan of full employment, reduction of poverty, sectoral growth and development, decline in economic inequalities and social handicaps and the growth and development plans at the district levels are under examination by the Commission. The other problem is the financing of the Perspective Plan. The investment requirements as noted earlier are Rs. 3,250 crores for the Fifth Plan and Rs. 6,510 crores for the Sixth Plan. On the assumption that the current rate of investment contribution of the 3 parties, State 45 per cent, Union Government 20 per cent and the private sector 35 per cent continues for the Perspective Plan period, the State investment will be Rs. 1,462 crores in the Fifth Plan and Rs. 2,930 crores in the Sixth Plan. Of this State investment, Central assistance in the four Plan periods has declined from 50-53 per cent to 38.9 per cent in the Fourth Plan. There is a case for the Central assistance being re-established at 50 per cent for the Fifth and Sixth Plan periods. If that were done then the State would have to find Rs. 731 crores for the Fifth Plan and Rs. 1,465 crores for the Sixth Plan from its own resources. A first assessment of State resources for the Perspective Plan period from tax revenues, receipts from State enterprises. loans and borrowings indicate that there will be a gap of Rs. 300 crores in the Fifth Plan and Rs. 800 crores in the Sixth Plan in State resources. The ways and means of closing this investment gap is the other major issue that the Commission faces. Two proposals that it has made to the government for additional mobilisation of resources during the Perspective Plan period are the creation of a State Investment Trust (SIT) and the establishment of a Regional Board of LIC. At present the Unit Trust of India (UTI) operating from Bombay, faces a double disadvantage in mobilising and utilising savings. First in place of the Rs. 3-4 crores per annum now raised by UTI, the SIT could raise Rs. 10 crores per annum as it will be able to attract and tap State resources particularly in the rural sector more adequately. The UTI has in its 8 years raised Rs 125 crores, and the State has contributed about Rs. 25 crores to it. This is a poor record which the SIT can correct. Second the UTI is restricted in its portfolio investment policy, while the SIT can invest in good dividend paying equities and preference shares as in the high yield first class equities in the Madras Stock Exchange which UTI cannot invest in. The SIT therefore can be an important development instrument in the State — mobilising savings and investing them efficiently. Similarly the LIC whose new business is around Rs. 150 crores a year in the State, the premium income Rs. 6 crores and income Rs. 28 crores, giving a net income after disbursements on maturing policies of Rs. 20 crores, invests less than Rs. 15 crores in Tamil Nadu. So here again a regional board of LIC will increase the income and premium side from State insurers and investments and will involve a fairer allocation of its investible resources in the State development programmes during the Perspective Plan period.

Power: As forecast in the last issue of the Bulletin (Vol. III page 618), the early September rains have improved considerably the hydel position. All the hydel dams in the Nilgiris are full. Power generation at Kundah is upto capacity with the Avalanche and Emerald reservoirs just one foot below their maximum—last attained 12 years ago. Moyar and Mukurti are also full. If the North East Monsoon in October-December is normal, Periyar and the remaining reservoirs will fill. For September therefore with all the Kundah sets operating fully, the Ennore thermal plant's generation of 60MW is not being felt. The Mahalingam Committee has recommended

a plan to improve the maintenance of the units and the burnt 110 MW transformer has been dismounted and sent to Bhopal for repairs. The other 110 MW set is being tested and one of the two remaining 60 MW sets under overhaul. Neyveli continues to feed 200 MW into the State grid. Under these conditions, the government has instructed the State Electricity Board to provide from early September new service connections to LT and HT consumers. The new HT consumers will be supplied power only at night except for continuous process industries who will have 24 hour supply. They have been notified, however, that power will not be available to them for a period up to 3 months during the summer. As suggested in the last issue, (Vol. III page 618) the Board has recommended to the government a 15 per cent cut from October 1 to compensate for the poor Mysore power position to be referred to later, the short fall in Ennore generation which will continue for sometime, and for industrial and agricultural power connection. The government decid ed in late September that from October 1 till May 1974 (a) a 15 per cent cut on all high tension industrial and commercial services, (b) a 15 per cent cut to low tension services except those with a monthly consumption of 200 MW and below. (c) a 10 per cent cut on railways, hospitals, and water supply, (d) the banking of display of lights, neon and tube signs (e) the grouping of agricultural power supply in 2 batches and (f) charging of twice the normal rate to domestic consumers who use more than 150 units, This is a small cut and is an act of caution. For industries the cut will be serious, though its impact would be cushioned by the standby generators that the major ones have had installed. For continuing process industries, barter deals with Kerala and other States on cement, tyres etc. could also provide relief. It is small industries which will be most seriously affected because they have no margin to cut back on. For the Fifth Plan, there are two good developments. The Union Planning Commission has cleared the Tuticorin thermal power project and the government has been asked to prepare the detailed engineering design of the first phase of the 440 MW project at a cost of Rs. 75 crores. The Commission has also agreed to arrange for the necessary equipment in time for the Fifth Plan operation. The main bottleneck to clearance was the double question of the costing of coal transport from the Raniganj coal fields via Haldia and who was to bear the cost. It is now established that the coal will be supplied to Tuticorin by sea at Rs. 105 per tonne, including railway freight from Raniganj coal fields to Haldia port, Haldia and Tuticorin port charges and the shipping freight. The State government has agreed to bear the entire cost, of the coal transport after the Union government's subsidy is withdrawn in March 1974. On this basis the shipping ministry is setting apart 3 of its 10 new 18,000 tonnes ships for coal transport. The Railway Ministry is arranging to move 1.8 million tonnes from Raniganj to Haldia which is the initial requirement of Tuticorin and the total 6.5 million tonnes at a later stage. It has requested the Steel and Mines Ministry to inform it in advance of the collieries from which coal will be transported. In turn the Steel and Mines Ministry has advised the State government that the two 220 MW set boilers should be designed for use of grade I and grade II coal. This is the kind of co-ordinated action the State and the Country needs to meet the power crisis in the Country as repeatedly stressed in Vol. II No. 12 pages 3-5 of the Bulletin. It is to be hoped that this integrated approach will be maintained at the execution stage. The 200 MW Mettur thermal project is still hanging fire over the question of its coal supply. The State had proposed Singareni collieries as

the source, but with the mining stagnation to be referred to later under the National section, the prospects for its clearance are not bright. The Tamil Nadu Electricity Board's Rs. 9 crores loan in September was fully subscribed and enables it to execute its expansion programme. The hold up over Mettur and the continuing disagreement between the Union authorities and the State authorities over the peak load and energy needs of the State need to be settled speedily. Against the State peak load estimate increasing from 1,675 MW in 1973-74 to 3,020 MW in 1978-79, the Annual Power Survey Committee's estimates stop at 2,177 MW for 1975-76. The latter's estimates of annual energy requirements are also much lower than that of the State's (See Vol. III page 2). Meanwhile our neighbour Mysore has decided to increase the existing 10 per cent cut on HT users to 20 per cent from October 1 due to the low level of the Lingannamakki reservoir which feeds the Sharavaty hydro electric project. Some categories of HT users including small scale industries, have been exempted but the effect on Mysore's industries is serious. Further this year's load demand in the South which is 3,759 million units will increase to 10,300 million units, calling for an additional capacity of 9,000 million units in this decade. It is against this background that the other heartening development is the regional planning of power projects in the South. Tamil Nadu has agreed to share the cost of the second stage of the 390 MW Idikki project, of the 1,500 MW Hogenekal project, the 240 MW Sharavaty Tail Race project and other inter State projects during the Fifth Plan at a cost of Rs. 200 crores. The additional three sets 130 MW Iddiki project was ready but Kerala did not need this additional power and it is here that inter-State co-operation became a reality. Tamil Nadu and Mysore will share in the additional power produced in the project. A further long time perspective for this State which has now come to the end of its hydel and lignite resources is to resort to pumped storage development to meet economically our peaking needs. This requires further engineering work now if the device is to be used from the Sixth Plan. (See Vol. III page 313).

For the Country as a whole with the good rains, the power position has returned to near normal conditions. The Country's power deficit which stood at 32.45 million units a day in May/June was reduced to 12.48 million units a day in August/September. Against the daily demand of 199.33 million units, 187 million units were available. There were however 3 problems. The agitation of power engineers for equal status and treatment with the administrative services continued to lead to constant interruptions in power supply and some damage to equipment in the Northern States. In Maharashtra despite the good monsoon, the Tarapur and Tata power stations problems - both technical and overhauling—have led to power staggering particularly to bulk consumers in that State during September. A third problem is more general for all States. During the power cut, the thermal sets were used to capacity and continuously and their overhaul postponed for the duration. Now the technical problems of such postponement are catching up. The boiler of the Guru Nanak thermal plant at Bhatinda in Punjab is in danger from its continuous use. With the fuller use of the hydel power stations, the thermal sets can now be closed down under a rotation system for overhauling. The Union government's liberalisation of the import of diesel generating sets in March (See Vol. III pages 3,4) is due to expire in October. It is estimated that about 250 sets have been so far imported, most of them 250 KVA and a few in the 50-250 KVA range. The effect of this additional capacity on

industrial production will be seen in the last two quarters of the year. The demand for importing sets has now declined and it is unlikely that the government will continue the six month relaxation. Now attention should be concentrated on executing existing projects and reducing transmission losses.

Tourism: The State and the Country are playing a very small part in the growing world tourist trade. India's share of the 1972 world tourist traffic was less than half a per cent, Rs. 47 crores out of Rs. 13,000 crores. At present 4,00,000 tourists visit the Country and around 1/10 of them visit this State. In 1971 out of 3,00,995 tourists who visited India, 38,074 came to Tamil Nadu. Among the major reasons for this small share of tourism by this State is lack of air transportation. There are only 3 international airlines which call at Madras, two of them twice a week and one once a week and the internal airline is both heavily booked and due to shortage of aircraft unreliable in its schedules. There are other reasons for the slow growth of tourism in the State, such as lack of knowledge of Tamil culture in other countries and lack of tourist facilities. But the major cause is air transport. It was good that this point was raised and discussed at the September meetings in Madras of the Federation of Hotels and Restaurants Associations and the Southern Hotels Association. At present the Meenambakkam airport at Madras can take a larger number of international flights from other airlines and if its enlargement and modernisation was speeded up could become an important tourist travel point from East, West and South. The hotel industry is developing well in the State and the Fifth Plan proposals for the private sector to build good, clean and economical hotels, motels and rest houses for middle class tourists (See Vol. III page 225) will boost the industry.

National Highway: When the Pamban-Rameswaram bridge is completed, whose foundation stone was laid in mid September, the National highway system will be complete in the State. There will be no unbridged rivers on the highway, which is also a part of the Asian highway No. 4 linking the State with Sri Lanka and the rest of the Country and Asia. The highway is also developing into a two lane carriage way which will be of considerable help for commercial traffic. With the problems faced by industrialists and traders with railway freight, delivery and taking over of goods, commercial traffic on the highway is expanding rapidly. Under these conditions, the financial and physical shortfalls in the National Highway Programme with which we will close the Fourth Plan is to be regretted. Financially we will have spent only over half the allocation of Rs. 41 crores as we will still be executing only Rs. 27.71 crores of projects as at the end of the year. It is hoped that Rs. 18 lakhs available during the year for advanced action will be used by the Department to complete investigation and project preparation so that the Fifth Plan highways and roads programme (See Vol. III page 3) may be fully executed.

Housing: A further provision to the housing programme referred to in the last issue of the Bulletin (Vol. III pages 621-622), is the middle class housing scheme being launched in the State. With a plinth area of 410 square feet, the house will provide two bedrooms, kitchen, bath besides other facilities The cost of each house will be around Rs 4,000. The Tamil Nadu Housing Board has also established 8 centres covering the 38 housing colonies in the city at which monthly meetings are being organised to improve the services offered to

the estates by the varoius State services, — the Electricity Board, the Pallavan Transport Corporation and the city Corporation. At the centre meetings, the individual and community problems faced by the colonies are reviewed and ameliorative action taken by the State and city services communicated to the centres within a couple of months. One effect of this programme is that it brings a co-ordinated service to the city's growing housing needs and makes the housing programme better known and used by the Public.

Welfare and distribution machinery: On September 1, all toddy shops in the State were closed in the first stage of the State Prohibition Policy. In 1974 the arrack shops will be closed and the complete prohibition will be in force from then. The loss of revenue of Rs. 40 crores per annum will call for additional resource mobilisation measures and some special assistance from the Union Government, if the Fifth Plan development programmes are not to be cut back by the reduction of over Rs. 200 crores from this policy. The rehabilitation programme of the unemployed toddy tappers referred to in the last two issues of the Bulletin (pages 556 and 622, is now under way with further diversification of the training and loan programme to settle them in alternative occupations. The other welfare programme of replacement of hand drawn rickshaws by cycle rickshaws, financed by the Chief Ministers' voluntary contributions fund of Rs. 25 lakhs is now complete. In September the City Corporation distributed 423 rickshaws to the employees of the city health department, at a cost of Rs. 900 each, out of which 750 is to be repaid by the owner from earnings. Another 1,500 rickshaws were also distributed by the government to unemployed persons at a cost of Rs. 1,000 each which is to be repaid at the rate of 1 Rupee per day in 1,000 days. Finally 900 rickshaws were distributed in Kancheepuram which has eliminated all handdrawn rickshaws in the State. Of the Rs. 25 lakhs in the fund, Rs. 8.5 lakhs were used to supply free rickshaws to 900 displaced rickshaw pullers, Rs. 2.82 lakhs as compensation to rickshaw owners at Rs. 200 per vehicle, Rs. 50,000 as cash aid to displaced rickshaw pullers till supplied with new cycle rickshaws, and the balance of Rs. 13 lakhs for a hire purchase cycle rickshaw scheme to 1,500 persons. This voluntarily funded programme has been effective in both removing a human indignity in the State and increasing self employment opportunities. On the distribution side, the government through the Department of Civil Supplies has begun a house to house survey of requirements of essential and non-essential commodities. The first district in which the survey was started in September was Kanyakumari which faced a particular distribution. As the survey is completed in the State this year, a programme of subsidised and fair priced distribution of essential goods to the poor can go into effect in the Fifth Plan. The government has also asked the Union Government's approval for the take over of the distribution of baby food as it has done in the case of Vanaspati. In the interim the Department of Civil Supplies is supplying from September baby food to customers registered with retail shops on production of the birth certificate of the child. The retailers in their turn are required to display the details of baby food stocks and their prices in their shops. Even when the supply shortage eases, there is need for the government to continue with its decision to take over the distribution of this commodity which is essential to the lower middle classes. The Fifth Plan distribution scheme may have to deal not only with goods essential to the poverty sector but those essential to the others in which there is evidence of hoarding and profiteering. Labour Welfare was reviewed at the Eleventh annual Con-

ference of the Labour Department at the end of September. The implementation of labour laws in the private and public sector industries was reviewed including the working of the Tamil Nadu Labour Welfare Fund Act which came into force from January 1, 1973 to improve further the health and living conditions of the workers. It was agreed that each public sector undertaking will nominate a high level officer who can act on behalf of the Management in conciliation talks. In addition 3 labour legal cells in Madras, Madurai and Coimbatore are functioning to advise workers and small unions on the procedure to be followed in obtaining redress of their grievance. It is to be hoped that as a result of these arrangements there will be greater industrial peace in the State during the Fifth Plan.

National :

Fifth Plan : September saw the outlines of the proposed outlay, the resources picture, the State and Union ministries' proposals and the first draft of the Fifth Plan emerging with some clarity. The total outlay of Rs. 51,000 crores proposed in the Approach paper (See Vol. II No. 12 pages 8-10 and Vol. III pages 12-13) has been reviewed in light of (a) the 22 per cent price rise in the 12 months ending July 1973 (b) the increased financial impact of the third pay commission report and (c) the rise in the price of petroleum products. The total outlay has been maintained in monetary terms. There will be a number of adjustments in physical targets ranging around a 10 per cent reduction and slow down in new industrial projects to take care of spill over obligations from the Fourth Plan. In the industrial sector the financing of projects that are spilling over mainly due to poor execution into the Fifth Plan will use up around 30 per cent of the allocation of Rs. 9,552 crores at Rs. 2,870 crores. Besides poor execution, rising costs have reduced physical achievements and some new projects, not part of the Fourth Plan, also add to the spill over effect. The most serious shortfall in attaining physical targets will be in fertilisers, steel and iron ores and metals summarised on page 628 of Vol. III of the Bulletin, which should be read along side of the over and under Fourth Plan expenditures also analysed in Vol. III (pages 623-625). The result is that spill over expenditure in the Fifth Plan in fertilisers will be, Korba (Rs. 114.8 crores), Sindri (Rs. 91.56 crores), Haldia (Rs. 85.3 crores), Nangal (Rs. 69 71 crores), Talcher (Rs. 47.44 crores), and Ramagundam (Rs.45 52 crores). In Steel the spill over will be Rs. 457 crores for Bhilai expansion and Rs. 510 crores for Bokaro expansion. The Korba Aluminium plant spill over will be Rs. 101.86 crores, the National Coal Development Corporation spill over will be Rs. 81.93 crores, Neyveli Rs. 39.84 crores, Hindustan Paper Rs 56.8 crores, cement Rs. 19.17 crores and the National Textile Corporation Rs. 56 69 crores. To this extent the Fifth Plan Industrial outlays have been mortgaged. The reasons for these spill overs are known. They are poor planning, bad management of the Steel and non-ferrous metals, coal and transport operations and unsatisfactory labour relations all of which can be corrected by timely action. Other factors such as the fluctuations in the supply of agricultural raw materials and power shortages can have a reduced impact if import policies and annual plans are adjusted to meet these emergencies. It is to be hoped that the Fifth Plan will make such provisions. On the resources side, the Union Planning Commission's review has reaffirmed the additional resource that should be mobilised during the Fifth Plan, namely Rs. 6,600 crores, by the Union and State governments and has proposed a reduction of deficit financing from Rs. 1,895 crores to Rs. 900 crores. This again is a crucial

factor and the Fourth Plan record of resource mobilisation by the States and deficit financing by the Union government need to be considerably improved if these Fifth Plan assumptions are to be more than pious wishes. The third element, the State Plans have been brought into line with the Approach paper assumptions, subject to individual variations and the possibilities of the States raising additional resources—an issue on which there is absolute silence on the part of all States pending the Sixth Finance Commission's recommendations. As for the Union Ministries' plans, in addition to the analysis in the last issue of the Bulletin (Vol. III page 624), the Union Planning Commission has fixed the power target at an even lower 33 million KW as even this will require a doubling of the coal target to 143 million tonnes in 1978-79. With regard to shipping, priority has been given to expanding the existing ship-yards at Vishakapatnam from 56,000 GRT to 1,36,000 GRT and Cochin from 1 lakh to 3 lakhs GRT which will become operational only in the Fifth Plan. Hence new projects, particularly the building of oil tankers and bulk carriers have been postponed to the Sixth Plan, with Rs. 50 crores allocated for site selection and feasibility studies during the Fifth Plan. 7 maritime States have offered sites for these large new ship-yards, of which Tamil Nadu is one with the offer of Tuticorin. An expert Committee is visiting the sites to finalise its recommendations by the end of this Plan period. The first draft of the Fifth Plan is expected to be ready for review by the National Development Council in early November.

Prices: The first sign in stabilisation and a small decline in prices over the last 12 month period was registered in the official wholesale price index which stood at 250.4 on August 25, 1973 compared to 251.7 on August 18, 1973 a small fall of 1.3 points. The all commodities index was also lower by 0.7 per cent compared to the previous month. All food articles, pulses, edible oils, rice and coarse grains recorded a 3.7 percent fall in prices. Liquor and tobacco prices fell by 3 per cent. The prices of industrial raw materials, cotton, groundnut and other oil seeds also fell by 2 to 6 per cent. The indices on chemicals and machinery remained stationary, the prices of manufactures rose slightly by 0.5 per cent, milk, meat, sugar, fish, tea rose by 1 per cent with a steep rise in the price of petrol by 7%, due to the government's decision to increase the excise on the price of petrol. This slight fall in prices obtained all over the Country in Gujarat, Maharashtra, Karnatak and Tamil Nadu. The main cause for the stopping of the price rise is the good monsoon and increased food supplies which are arriving in the market, together with increased consciousness of the consumers of the price rise. The deeper underlying causes for the inflation on the side of production, distribution, government's tax and fiscal policies pointed out by the RBI's annual report for the year ending June 30, 1973, to which reference will be made later, must also be acted upon. In addition to the government's decision to cut the current year's expenditures by Rs. 400 crores, the Prime Minister's 8 point directive to the ministers reducing official entertainment, visits abroad, official travel, use of staff cars, telephones, electricity, building renovation and contingencies should be generally applied in all States and in the Country as a whole. On the other hand from August 1, Union government employees with pay upto Rs. 575 are to receive an additional dearness allowance ranging from Rs. 7-10 to compensate the price rise. This will cost the government Rs. 20.96 crores this year and Rs. 35.93 crores in a full year.

Wheat Imports: In early September the government stopped the import of wheat in view of the price having risen in the international market to Rs. 200 per quintal. The total wheat imports for the two drought years of 1972-73 and 1973-74 amounted to 3.8 million tonnes. The suspension of a further 2.5 million tonnes of wheat import has relieved the drain on the Country's foreign exchange and given the government time to watch the trend of wheat prices abroad which have begun to decline. The reliance on its own stocks has led to a reduction in the allotments to the States, the relative scarcity of wheat in the Maharashtra, Kerala and Tamil Nadu markets, and the difficulty in obtaining bread in those States and in West Bengal. As the Kharif wheat crop comes on the market, the supplies are beginning to increase and the shortage lifted.

Wheat prices for next Rabi crop: The government in late September also fixed the support prices for the next rabi wheat crop in accord with the recommendations of the Agricultural Prices Commission. The support price has been raised from Rs. 71 per quintal to Rs. 80 for the indigenous red variety and from Rs. 76 per quintal to Rs. 85 for the Mexican variety—a rise of Rs. 9. The prices for the indigenous white variety and superior varieties on which the APC's recommendation is Rs. 85 and Rs. 90 per quintal have not been announced. It will be recalled (See Vol. III page 404 of the Bulletin) that there has been continuous pressure on the government for raising the price during the last rabi season which the government resisted on the grounds that it was not sound policy to change the price in the midst of the harvest and that the burden on the poor sector of an enhanced price would be heavy. Certainly one of the factors which added to the difficulty of wheat procurement which ended with collecting 4.35 million tonnes against the target of 8 million tonnes was the price factor. The APC's rationale of the price rise recommended and accepted by the government is (a) the need to announce the price in time to influence sowing (b) the equation of the support price to the increased cost of inputs and (c) the further margin needed to cover the farmer who has to sell all his output at the support price, as there will be no open market to sell part of his stock as in the past. It is clear that the actual procurement prices which will be announced on the eve of harvest will be higher. And the government's financial position is such that it will not be able to carry a heavy food subsidy burden and as a consequence there will be a further rise in issue prices for the next season.

Finance Holding Company: In order to reduce the growing delays that have followed from the overlapping functions of the multiple financial institutions in the Country to which one industry has to address itself, the government has approved a proposal to set up a holding company of all public financial institutions. Headed by the IDBI., the Company will include IFCI, LIC, ARC, General Insurance Corporation and UTI. This will not only speed up the procedures for financing industrial and agricultural projects and programmes, it would also free the RBI to concentrate on monetary and credit policy and maintain a more independent stance vis-a-vis the government. The RBI, and not the government, however should be responsible for the coordination of the total monetary and credit policies of the Country, including those that will flow from the finance holding company.

Fiscal incentives: In place of the development rebate, and in execution of the budget provision (See Vol. III page 235), the government introduced the Direct

Taxes amendment bill in Lok Sabha on the last day in early September providing for a 20 per cent initial depreciation allowance for encouraging industries in 22 sectors in backward areas, and to promote export and R & D expenditures by industrial firms. The initial depreciation is allowed for machinery or plant installed after May 31, 1974 when the development rebate is withdrawn for power generation or distribution, for construction and maintenance of specified items and for new aircraft and ship. When the bill is approved and goes into effect, it will close in part the gap faced by industries with the withdrawal of the development rebate.

Licensing procedures: As noted in Vol. III pages 17-18 and 634 the actual functioning of our industrial control procedures is a major obstacle to development. A recent study carried out by the Union Ministry of Industrial Development reports the following incredible facts in the functioning of our licensing procedures. In place of the 90 days within which an industrial license application is to be cleared under the rules framed under the Industrial Development and Regulation Act of 1952, the conversion of a letter of intent into an industrial license takes 162 days, even for wholly export oriented industries it takes 181 days, the issue of a letter of intent takes 390 days, approval of foreign collaboration 311 days, and the clearance of a capital goods license 372 days. The waiting period for a prospective entrepreneur ranges from 598 to 978 days (2-3 years). At the time of study, there were more than 1,000 cases pending before the capital goods licensing committee, 2,000 cases cleared by that committee were awaiting issue of import licenses and 280 awaiting clearance for foreign collaboration. The loss in money terms of this functioning is an increase in foreign exchange costs of 20-80 per cent amounting to Rs. 110 lakhs during the long delays. At least Rs. 35 crores is lost every year. And the major sources of the delays are not the policy making levels but the lower levels which have to summarise each paper and each note, duplicate the material to all and sundry involving producing and reproducing 180 sets of papers. And after all this, the industrialist is expected to act within six months of the issue of the license, despite the problems of import and foreign collaboration which he cannot control and which require him to go through the whole process of revalidation again. The serious loss of entrepreneurial interest and industrial production for the Country are the worrisome aspects of this story. Now the government has decided to set up the Centralised Industrial Secretariat which will deal with all proposals on expansion or new investment and clear all matters relating to letters of intent, foreign collaboration, capital goods licenses and MRTP clearances. It is hoped that this centralised service will bring at least a 30-50 per cent lessening in the delays now involved.

National Production Front:

RBI's Annual Survey: The RBI's survey of 1972-73 in its annual report is not only an analysis of the negative retarding factors in the economy but also a set of proposals for the correction of those factors, providing much needed guidelines for this year. On the price front, it proposes that deficit financing which is budgeted at Rs 283 crores for the Union government and the States, including Rs 85 crores for the Union government and is likely to be exceeded because of the lack of mobilisation of resources by some States, the larger outlays on food subsidies and the implementation of the third pay commission and bonus review committee recommenda-

tions, calls for not only the reduction of Rs 400 crores in the current year's expenditures but also better tax collection and larger borrowing to keep the budget deficit to a smaller figure than that of the last two years. The other means of keeping prices down is through a well prepared procurement programme for food grains and a well managed and effective public distribution system. In the case of rice it recommends a levy on both rice mills and others. In fact if the procurement system is not improved and made effective, the report hints that the public distribution system should be modified. Parallel to these two proposals is the guideline for better management of public investment and public consumption calling for larger tax collections, more public borrowing as noted earlier and an increase in the rate of savings. During 1972-73 household savings remained stable and an increase was recorded in the private corporate sector and on the Union government's revenue account. The percentage of domestic savings to national income at current prices was 11.7 compared to 11.9 for the previous year. The rate of savings will have to increase for this year and for this the banking services must be further expanded and deepened. Such a development will not only mobilise additional savings but provide the working capital for agriculture, industry and the commercial sectors. In the agricultural sector and after noting that 1972-73 will register a sharper decline below the low 1.7 per cent of 1971-72 (100 million tonnes of food grains for 1972-73 against 104 million tonnes for 1971-72), it recommends what has been consistently advocated for this State, a larger deployment of investment in dry farming both to meet the problems of the dry farmer who forms a major element of the poverty sector and to bring a degree of stability in a Country where 80 per cent of farming is dry farming. In the industrial sphere where 1972-73 marked a refreshing 7 1 per cent growth (though below the targetted 8-10 per cent, See Vol. III page 563), it recommends accelerated development of public sector investments, using a realistic cost-benefit analysis for new investments so as to economise on our scarce resources and the maintenance of an element of continuity in the government's industrial and tax policies to spur private sector growth. The foreign exchange resources are not inadequate but need to be increased through further expansion of our exports to pay for our growing imports. The 1972-73 overall picture is sombre as the growth was well below 2 per cent. If the Fourth Plan is to reach anywhere near the target of 5.5 per cent and if the Fifth Plan is to start on a credible basis there must be a major effort this year to attain a 6-8 per cent growth.

Public sector performance : Further to official reviews of public sector performance analysed in Vol. III pages 172, 328 and 405-406 of the Bulletin, the Economic Times September review is more comprehensive and throws further light on the strong and weak points of the sector. The public sector enterprises occupy a major part of our economy, having grown from 142 units in 1960-61 to 352 in 1971-72 owning 51 per cent of the Country's total industrial share capital, involving an aggregate investment of Rs. 4,631 crores. More than half this capital has been invested in 3 industries—steel, engineering and ship building followed by chemicals and petroleum. Among the top 15 firms in the Country, all but 2 are in the public sector (See Vol. III page 238). The total employment of the public sector has risen from 71 lakhs in March 1961 to 112 lakhs in March 1972. The Lok Sabha committee on public undertakings computed that 7 lakhs are employed in the Union government units. Such is the profile of this sector. On the positive side, the sector has worked to

maximise social returns in terms of public interest and welfare of its workers, it has made a contribution to the public exchequer, it has pioneered the little industrial R & D in the Country in contrast to the private sector which has largely imported its technology from the foreign collaborators, it has adhered to a rational pricing policy following the internal or international market prices, and it has begun to show marginal improvement in its functioning in recent years as a result of the many committees and commissions which have investigated its functioning. On the negative side, 18 out of the 65 union government units have accumulated such heavy losses that the aggregate losses of the sector are 50 per cent higher than its reserves and surpluses. Seven units whose losses are greater than their share capital should be classed as sick units: they are Central Inland Fisheries, Hindustan Photo Films, Heavy Electricals, India Drugs and Pharmaceuticals, MAMC, National Instruments and NCL. Under-utilisation of capacity is a widespread ailment as is continuous labour unrest. Other features of the losing units are long gestation periods, defective feasibility studies based on the advice of foreign collaborators, wrong product mix, unduly large capital base, over-staffing and poor management. With this mixed performance todate their effective future functioning depends on the extent to which the Pathak committee is able to enforce financial discipline, managerial skills and increased technical expertise in the units which belong to what has been described as the sick category. The Lok Sabha's Committee on public undertakings in its report published in September is optimistic about the functioning of the sector, though it concludes that there is much scope for improvement in the functioning of the sector, particularly in assuring greater workers participation at all levels, acceleration in the export field and in regard to reducing cost, and in increasing excellence in quality and consumer appeal. The sector now has had all the analysis and advice it needs. It is a programme of work for each unit which now needs to be developed to bring about the desired improvements in performance.

Steel: The government has raised the price of steel of all categories by Rs. 75 per tonne as of mid September. This action has been overdue as noted in the analysis of steel prices in (Vol. III page 630). Further to the government's decision to encourage the setting up of mini steel plants, discussed in the last issue of the Bulletin, the Union government has advised the State Industrial Development Corporations, SIDCOs to set up sponge iron and mini steel plants, particularly alloy and carbon steel plants, for which the union government would provide capital help upto 30-35 per cent. SIDCOs have been advised to raise 1/3 capital of these plants from the public and also loans and equity participation from banks and public financial institutions. Here the Finance holding Company can help the SIDCOs which are planning to set up mini steel plants to get their projects evaluated speedily and financed adequately. This opening up of the steel sector to the States through mini steel plants can help the Fifth Plan considerably. The Bokaro plant whose first coke oven battery was lighted last October (See Vol. II No. 11 page 13) and the second in May this year faces a serious problem of finding good coking coal. It is living now on a 3 day supply of coking coal and that too at the cost of other HSL plants. When the first stage is complete in March 1974, it will need 10,000 tonnes of coking coal a day and for its 4 million tonnes stage in December 1976 it will need 5.6 million tonnes a year. Its consumption is the lowest of the HSL plants at 650 kg. per tonne of iron, compared to Bhilai 800 kg.

and Durgapur and Rourkela 850 kg. The completion period will be 8 years compared to the 2 year average for British and Japanese plants. For both the Bokaro and Bhilai expansion, HEC is producing the equipment. To date it has delivered 63,000 tonnes out of 72,000 tonnes to Bokaro and is producing 50,000 tonnes of equipment for Bhilai. It is to be hoped that both expansions will begin to yield results towards the end of the Fifth Plan. IISCOs performance for the year ending March 1973 shows a decline in production due in the main to the shut down of some coke oven batteries. Saleable steel production had declined to 43 per cent of capacity. The supply of iron ore and the average coal ash content however improved during the year. The Rs. 45.30 crores rehabilitation programme which has now been pruned to Rs. 43 crores and is being financed by a financial group headed by IDBI will be completed in 3 years when the plant should be producing to its capacity.

Heavy Plates, BHEL & HELL: Bharat Heavy Plates and Vessels is also doing badly. With an installed capacity of 23,000 tonnes, and a target production of 7,000 tonnes for 1972-73, its output was only 5,000 tonnes. For the current years it has set itself a target of 13,000 tonnes but is unlikely to produce more than 7,000 tonnes because of the delay in the supply of the raw materials it needs. In its third year of operation, it recorded a loss of Rs. 85.86 lakhs apart from writing off Rs. 88.16 lakhs in depreciation and revenue expenditure. There should be a co-ordinated effort to supply the plant with the raw material it needs so that for the current year it can at least break even. Last year's production of BHEL at Tiruchi, Hardwar and Hyderabad and HEIL's, on the other hand, reached new records and this year's output is being increased further through increased productivity and full use of capacity and facility, BHEL's production for 1972-73 was Rs. 84.2 crores (Rs. 60.3 crores in 1971-72), its net profit after depreciation increased from Rs. 3.19 crores to Rs. 8.2 crores and its balance of debt of Rs. 7.3 crores will be paid back this year. HEIL's output increased by 34 per cent to Rs. 56.8 crores, its profit Rs. 5.08 crores and its losses of Rs. 59 crores are likely to be wiped out in the next 3 years. For this year, the units are aiming at producing over Rs. 200 crores of equipment including 2,000 MW thermal and hydel generating sets and for next year Rs. 300 crores involving 3,500 MW sets. In fact it is felt that if the power target for the Fifth Plan is only 33 million KW, the two units can meet all the equipment requirements for the Plan using the existing imported material. The BHEL and HEIL prices compare favourably with the landed cost of imported spares and sets and are tending to be somewhat lower than those prices. These two public sector undertakings are among the most productive ones and could, as pointed out in Vol. II No. 1 page 9 and No. 3 page 7, serve as a model to others.

Coal: The Coal supply position continued to be extremely difficult through September. Gujarat which needs 2,500 tonnes of hard coke per month and 200 wagons to transport them to the State and its engineering units, has had less than 200 tonnes and 16 wagons a month to meet its needs. The difficult coke supply position faced by the engineering units in the Country continued into 1973. Similarly several industrial units, particularly cement and foundries in this State have been forced into a crisis situation due to the shortage of coal and coke. Wagons have been in very short supply and many of the cement units have been forced to switch over to oil, raising their costs by Rs. 20 per tonne. In late September, the Ministry of Steel and Mines reported that it had

taken measures to increase coal production and the Railway Ministry also stated that it had allocated 3,024 wagons per day to move coal and coke. The first priority for this improved production and transport is the steel plants and thermal stations. Little improvement was recorded in the supply of coal and coke to the other industries; particularly in the small and medium sectors.

Cement: Without reference to the current fuel and coal problems faced by the cement industry, the question of cement prices as analysed in Vol. III pages 407-408 has been under investigation by the Tariff Commission. For the immediate present, the government has accepted the interim report of the commission and from mid September decided on an increase of Rs 10 per tonne in the price of cement. This should provide some relief to this important industry in meeting a part of its escalating costs which have not been reviewed since October 1961.

Textiles: The problems of textile production by the mills, power looms and handlooms, for domestic consumption and export purposes as analysed in past issues of the Bulletin (Vol. III pages 17-18, 98-99, 176, 349, 409, 423-424, 487, 506-507, and 565) need review with a view to the establishment of a co-ordinated policy in regard to the production of various types of cloth and grades of yarn and to meet the needs of the poverty sector for medium and coarse varieties. The issues are set forth in a Union Planning Commission report. For one thing the growing demand from the latter group for coarse and medium cloth can be met by allocating their production to the handlooms and powerlooms and by promoting the setting up of spinning mills in areas where such looms are concentrated. There is also the need to damp down and control the competition which powerlooms are increasingly offering handlooms. To avoid the yarn crisis analysed in the earlier issues of the Bulletin, there is also need to build a yarn buffer stock. Finally there is the problem of credit facilities for both the mills and the handloom sectors in which policy is needed. These are some of the urgent problems currently faced by the industry and the Union ministry of commerce and the planning commission need to establish policy now in all these matters, if the Fifth Plan targets of 3,000 million metres of cloth for the handlooms and 1,800 million metres for the powerlooms are to be realised.

Fertilisers: Given the serious shortage in fertiliser supply referred to in Vol. III page 631 of the Bulletin to which the recent floods leading to the close down in September of the Gujarat factory has added urgency, and the certainty that the shortage will continue to increase to 1 million tonnes during the Fifth Plan, the government has now sent out missions to explore the international supply market and conclude 3-5 year agreements for the stable flow of fertilisers from abroad at reasonable prices. Long-term agreements are being concluded with firms which are setting up new plants for producing concentrated varieties of fertilisers. The direct arrangements with producers will also bring down the price and provide a cushion against short term fluctuations such as in the sellers markets we face today. Along the same line, arrangements are being made with Canada, Bahrein, Iraq, Iran and Saudi Arabia for the setting up of joint fertiliser plants in their countries as one means of increasing fertilisers supply to this Country. The $90 million joint fertiliser project in Bahrein is the joint project which is ready to be established and its entire production will be available to this Country when it goes on steam three years after the agreement between the countries is signed.

Crude and petroleum products : With the continuing and rapid rise in the international price of crude ($ 1.28 a barrel in January 1970 against $ 2·62 a barrel today) and of petroleum products which include petrol, naphtha, diesel, LDO, fuel oil, and lubricants, the drain on the Country's foreign exchange resources has become serious In 1972-73 the crude imports were 12.3 million tonnes and petroleum products 3 3 million tonnes at a cost of Rs. 200 crores. For this year the crude imports will be 15 million tonnes and petroleum products 4 million tonnes for which the foreign exchange needed would be Rs. 374 crores. The government has decided to allocate only Rs 324 crores for this year for these imports. This means that something has to be reduced and so, as between crude and petroleum products, the cut will fall on petroleum products. For one thing crude contracts have been entered into for this year and cannot be reduced and in any case price rise of petroleum products is even higher. Within the latter group, naphtha imports cannot be reduced because of its feeding fertiliser production and fuel oil and lubricants imports will have to be reduced but only if fertilisers switch over to coal and electricity. The future is rather grim and one estimate, using the current rising price trend and increasing demands, computes that crude imports will cost the Country Rs. 2,000 crores by 1985. The immediate problem is to reduce the consumption of this import both now and for the Fifth Plan and it is a reduction in motor spirits consumption that is now envisaged. The finance ministry wishes to achieve this by increasing steeply the price of petrol. That would also conserve its high revenue yield which was Rs. 240 crores in 1972-73 and Rs. 255.5 crores expected this year. (The tax in the petrol price is 81 per cent). In addition to the 10 paise per litre rise reported in Vol. III Page 617 of the Bulletin, further rises in petrol prices will occur during the year. This will however not reduce consumption aud will simply add to the inflationary pressure via taxi and bus fares, transport of foods, and trade generally. The petroleum ministry has therefore worked out a scheme for reducing the consumption of petroleum and kerosene by 25 per cent from the start of the Fifth Plan next year. If that were done there will be a saving of Rs. 30 crores in foreign exchange. The norms for rationing have been worked out at 1,500 litres a year for private cars, 3,600 litres for taxis, 3,000 litres for staff cars, 700 litres for motor cycles, 400 litres for scooters etc. This rationing will have to be administered by the State. It is a difficult operation but seems inescapable. It is against this background that the government has dropped any plan for the take over of the 3 foreign oil companies (See Vol. III pages 176 and 246) including the take over of Esso, and has instead worked out a scheme for control over 3 companies. Their refineries assure a supply of 7.5 million tonnes of crude brought in by the companies and this is no time to disturb this regular flow. The government concluded in September an agreement with Libya for the supply of 4.5 million tonnes of crude at reasonable prices by the end of 1975. This is a welcome development, though the price factor will not be very different from that of Iraq, which has had to conform to international prices.

Motor cars : Against this background, it is good that motor car production is stabilised at around 40,000 a year during the last 3 years, while that of jeeps (12,589) and scooters and motor cycles (120,000) is increasing. Until the petrol situation is clear and has improved, it may be necessary to maintain production at this level despite the fact that the demand for cars is estimated at 1 lakh by 1978. It is not only a question of producing a dependable and

reasonably priced car and a question of producing it only with indigenous material, it is even more a question of the availability of motor spirit during the Fifth Plan which should determine how many of the 11 letters of intent now given out should be turned into licenses.

Newsprint : Newsprint is another commodity in short supply as pointed out in Vol. III page 632. For this year the total requirement is 2,45,000 tonnes. NEPA produces 40,000 tonnes, 1,26,000 is to be imported from Canada, (if its striking plants go into full production soon) and other countries, and 32,000 is to be imported from the Soviet Union, leaving a shortage of 60,000 or 30 per cent. Newspapers have to cut their pages by this amount. In addition the international price of newsprint is to be raised from Rs. 400 this year to Rs. 825 next year. This means that I class English Language newspaper face a loss of Rs. 76 lakhs this year and Indian language papers Rs. 62.7 lakhs. The newspapers will not be able to cut their news section but rather their advertisement. There is a case therefore for raising the price of such advertisement and the price of newspapers. The shortages of newsprint is due to the very high consumption of newsprint in the U.S. which uses 40 per cent of world production, the lack of long term contracts for the import of newsprint similar to that of the European countries and the poor planning of newsprint production in this Country. For the present the Union ministry of information and broadcasting has been helpful in speeding imports, increasing indigenous production and negotiating for larger imports. But the newsprint and paper situation in the Country is a difficult one. At the mid September meeting of the Development Council for paper, pulp and allied industries, the newsprint capacity of 2,250,000 tonnes on the basis of projects proposed now at the end of the Fifth Plan was decided, involving a target of 1.5 million tonnes for paper and paper board. At present an additional capacity of 236,000 tonnes is under implementation and will be operating by the middle of the Fifth Plan, when the capacity will be 1.3 million tonnes a year. The Union minister of industrial development announced that the government has banned the import of paper making plants because the indigenous machinery could meet the demand for new plants and on time. Now it is necessary for those who have been granted letters of intent to set up plants with this machinery and help to meet the target demand for paper. As for newsprint, the government's intention to raise the domestic price should spur additional investment in this sector. With the help of some concessions offered by government, the paper industry is working on producing newsprint from used newspapers using the de-inking process. One estimate is that newsprint produced through this process could be sold at Rs. 2,000 a tonne.

Agricultural production : Despite floods and the extensive damage to crops in Kashmir, Punjab, Rajasthan, Madhya Pradesh, West Bengal and Gujarat, the Kharif prospects for the year are set at 67 million tonnes and together with the rabi harvest, the year's target of 115 million tonnes is likely to be reached. Official forecasts are 42.8 million tonnes of Kharif and winter paddy, 6 million tonnes of groundnuts and half a million tonnes of sunflower seeds. In the flood ravaged six States, lakhs of people have been rendered homeless and crops have been ruined. At least the ravages to Madhya Pradesh and Gujarat could have been averted if agreement between the two States on the Navigam dam across the Narmada had been reached. Paddy, coarse grains, jute, cotton and groundnuts

did very well particularly in the drought prone areas of Rajasthan, Gujarat, Maharashtra and Mysore which had a very good monsoon. Taking advantage of the good season, an intensive production drive was also launched in the outturn of pulses. Pilot projects are underway in 30 districts to increase its production to 12·2 million tonnes which will then be a good Fifth Plan base. This Rs. 3·61 crore Centrally sponsored programme includes a mini kit scheme to make up for the lack of HYV in pulses and its heavy reliance on the weather. Against a Fourth Plan target of 15.5 million tonnes, the first 3 years' production was 11.69, 11.81 and 11.05 million tonnes, so that if this year the production tops 12.5 million tonnes, the Fifth Plan can see the realisation of 15 million tonnes of this very essential protein rich element in our diet. Plans are also being made for the rabi crop and improved storage practices. In areas assured of irrigation facilities, 52 districts have been selected, including 2 in this State, to ensure economical and efficient use of fertilisers. A soil testing campaign for the rabi crop has been launched. This involves simultaneous attention to the physical, biological and chemical facets of soil fertility, using chemical fertilisers and organic manure. The result is that the water holding capacity, the uniform temperature resistance to erosion and consolidation of plant nutrients are assured. The first attempts in this type of soil feeding were referred to in Vol. III pages 30, 184 and 332 and it is now necessary to push forward this programme of soil testing. On the storage programme, the Rs. 90 lakh crash programme is underway to save food grains which are lost through poor storage. On an average the farmer retains 60-70 per cent of his produce for his consumption, seed, feed and wage payments to his fellow labourers. About 1/3 of this grain is lost through spoilage. Now in addition to offices in Bombay and Patna, offices have been opened in Madras, Hyderabad, Bhopal and Ghaziabad to run this campaign. Rs. 68 lakhs is being expended through the State government in credit to farmers for the purchase of storage bins of 1 to 10 tonnes capacity, designed by the Hapur Grain Storage Institute and in improving their existing structures to reduce shortage losses to the minimum. Farmers are being trained in scientific storage techniques under this programme. Following up this programme, it has been decided to set up in each State two institutions. One is a high power land use board headed by the Chief Minister to make soil conservation part of new irrigation projects particularly in catchment areas and ensure that land management is undertaken on a sustained, co-ordinated and inter-disciplinary basis. The other institution is a land development corporation which would oversee the proper use of funds allotted by financial institutions for investment in land. In the Fourth Plan Rs. 27 crores is being used for land management and in the Fifth Plan Rs. 40 crores. The programmes will be particularly active in arid and drought prone areas in soil and water conservation and in their financing. Other projects that are to be covered by these institutions are the 10 pilot projects to end shifting cultivation and land erosion and the 25 pilot projects on water logged and saline lands. The programme is sound. The only doubt is whether there is any real need to continue creating new institutions which are costly in terms of overheads and also confusing to the farmer. He has to deal with the co-operative, the land development bank, the Farmers Service agency, SFDA or MFAL in some cases and the commercial bank. It is hoped that these two newly created institutions will be State co-ordinating and directing bodies using existing institutions and machinery at the local level. In the area of wages, the Union government has

raised the *minimum* wages for unskilled agricultural workers from Rs. 2.50sRs. 3.70 per day to Rs. 3.50 and Rs. 5.50 per day *according to* the different areas where its projects operate. Similar increases of minimum wages for semi-skilled and highly skilled workers have also been established from September 1st. This is an overdue reform to reduce the gap between agricultural earnings. The Economic Times Research Bureau studies on the secular trend in the sixties in our agricultural production throws a hopeful light on our performance and supports the optimism of Mr. Borlaug, the Nobel prize agricultural specialist and the IBRD assessment about Indian agriculture. During 1960-61 to 1971-72, aggregate crop production registered a compound rate of growth of 2.34 per cent, with 2.66 per cent growth in food grains and 1.77 per cent in non-food grains. What is particularly heartening is that the growth was due to HYV technology rather than to extension of acreage. 1.87 per cent was the technology yield increase and only 0.61 per cent increased due to increase in the production area in the case of food crops, and 0.75 per cent and 0.46 in the case of non-food crops. In the aggregate crop production, the contribution of yield was 1.47 per cent and area was 0.57. If these trends are maintained in the Fifth Plan, its targets can be attained.

Exports : The Country's textile exports for 1972 recorded a high Rs. 150 crores against Rs. 110 crores in 1971 and is expected to be Rs. 175 crores this year and Rs. 200 crores next year. One of the interesting developments is the growing Japanese markets for Indian textiles which climbed from Rs. 85 lakhs to Rs. 4.19 crores in the first 7 months (January-July) of this year and is likely to reach Rs. 9 crores. The exports to Japan comprise piece goods, yarn, apparel, household linen and hosieries. On the other hand the exports of ready-made garments are declining from the 120 per cent increase of last year. The Swedish demand has been cut back under quotas imposed by Sweden on cotton handlooms and mill made shirts which by August have been fully taken up. The German orders have also declined and the French are interested only in low priced garments. The Soviet demand is for work shirts which are not produced in the South. All this means that some 2,000 units in Madras, Kerala, Bombay and Delhi producing 20,000 garments a month using crepe fabrics produced in Kerala and Madras checks fabricated in this State face a slump and joblessness. The cumulative result of the power cut, the yarn control and the uncertainty about the export incentive (See Vol. III page 581) is that the export in ready made garments which jumped from Rs. 11.77 crores in 1971 to Rs. 24.82 crores in 1972 will be much lower this year. This gives point to the warning by the Economic Times Research Bureau that the 22 per cent increase in exports registered in 1972 as analysed in Vol. III pages 634-634 needs to be interpreted with a good deal of caution. It points out that the March 1973 high figure is an optimistic estimate which is likely to be nearer the April figure of Rs. 145 crores than the estimated Rs. 269 crores, that the Rs. 170 crores of exports to Bangla Desh and Nepal did not contribute to our foreign exchange earnings, and that due to exchange fluctuations, the rupee value of our exports has increased by 3-4 per cent. If these 3 factors are taken into account our 1972-73 export growth would be 12 per cent and not 22 per cent, our export total would be Rs. 1,800 crores against a total imports of Rs. 1,825 crores, leaving no trade surplus of Rs. 185 crores. This analysis is also based on unavailable figures, but its moral is that exports did very well in 1972-73 which is over double the previous year's performance and the effort must be kept up for

the current year. Taiwan and South Korea have placed an order for Rs. 7 crores of spinning and weaving machinery from a Bombay firm, Bangla Desh has ordered Rs. 15 crores of textiles, cotton and staple fibre sarees and lungis, and France, Holland and Germany have placed orders with 5 bicycle units for Rs. 4 crores of 3 lakhs sports light roadster model bicycles. Chemical exports were Rs. 39.5 crores in 1972–73, within which the large chemicals group accounted for Rs. 16.6 crores and is expanding its export market rapidly to cover U.K., U.S., USSR, Germany, Italy, Canada, Japan, Saudi Arabia with particular reference to basic drugs and fine chemicals, dyes, intermediates and coal tar chemicals, basic organic and inorganic chemicals, and soaps, detergents, cosmetics etc. Another sector which is expanding is the export of crushed bones which amounted to Rs. 6.4 crores in 1972-73 and will be higher this year from production in Tamil Nadu and 6 other States. U.K., Belgium, France, U.S. and Japan are the main buyers. Further BHEL has to meet a third order from Malaysia for a Rs. 1 crore 30 MW boiler and erect it, making total export orders from the Malaysian Electricity Board to BHEL Rs. 12.5 crores. (See Vol. II No. 8 page 22). Bharat Electronics which exported Rs. 1 crore of electronic components to U.S., U.K., Canada, Germany, Australia, Brazil, Iran etc. is further expanding its exports to these wide spread sophisticated markets, including an order to supply the U.S. market with 5 million pieces of ceramic capacitors. Another expanding export good is jute carpet backing in the U.S. which rose from 885 million sq. yds in 1969 to 1,334 million sq. yds. in 1972. However, synthetics are replacing primary and secondary backing in the U.S., primary jute backing having fallen from 80.6 per cent in 1968 to 46.9 per cent in 1972 and further to 45.3 per cent in the first quarter of 1973. Secondary backing has also dropped from 76.2 per cent in 1969 to 61.3 per cent in the first quarter of 1973. This calls for a rather extensive programme of R & D for adapting jute to new market demands and for intensive export market promotion. Iron ore exports to Japan will increase with the agreement signed at the end of September, for Japan to accord Indian iron ore supplies the most favoured party treatment under which, like Australia, India will be compensated for losses following dollar devaluation and yen revaluation. Concurrently an increase in ore exports is also being negotiated. India -EEC negotiations for the new trade agreement are making slow progress. There are only 2 months left for completion of negotiations. Agreement on EEC tariff reductions on Indian jute, coffee, tea and coir exports and the commercial co-operation accord should be arrived at by November. One of the major questions under debate is the scope of GSP as it will be operated by EEC. Will it be enlarged to include agricultural products? Will the EEC markets open to India and the developing countries really not be cut into by EEC members who will have no tariff or non-tariff barriers to face? These and other issues have to be discussed and negotiated in detail on an item by item basis. There will also be some devetailing of these negotiations with those of GATT to which reference is made later.

Aid: In September India and U.K. signed a loan agreement for £ 4.1 million for the Koyali Naptha Steam cracking plant. The loan is interest free with 7 year grace period and a 25 year maturity. Negotiations are under way for a Rs. 150 crores World Bank Loan for the U.P. ravine reclamation project, which is a hard loan repayable in 5 years. The project will increase U.P.'s food production by 40-50 lakh tonnes per annum and increase its milch and drought cattle by 11 lakhs. The additional husbandry products are

valued at Rs. 500 crores a year. India was the largest beneficiary of loan assistance from the World Bank group for the year ending June 1973, when Bank commitments to India totalled $ 564 million (for the year ending June 1972 they were $ 472 million). For the five year periods 1969-73 the commitments totalled $ 1.7 billion compared to $ 780 million for the previous 5 years. The major part of the 1972-73 loans, $ 494 million was in the agricultural field—credit, marketing, fertilisers and education, and one Bank loan of $ 70 million was to ICICI. As at June 1973 the World Bank group's cumulative loans to India stood at $ 3,696 million, comprising 41 hard loans of $ 1.2 billion and 54 soft loans of $ 2.4 billion. India-U.S. PL 480 negotiations continued in September. The proposal at that time under discussion involved disposal of the U.S. credit of Rs. 2,250 crores. This would require India paying Rs. 75 crores in dollars to the U S. in 10 years and Rs. 675 crores for U.S. operations in India and aid to neighouring countries. The balance of Rs. 1,500 crores would be the U.S. contribution to India's agricultural development, rural electricity, housing and other agreed programmes in India. This is close to the position of India and should it be approved by the U.S. Congress would be a sound way of winding up the PL 480 obligations.

International :

Bangla Desh : The first year of the Bangla Desh Five year Plan is under way and in many ways the economy faces the same constraints as those of India and other poor countries. Inflation which has resulted in a doubling of prices against the pre-Independence year 1968-69, has now levelled off. The $ 50 million World Bank Commodity credit is now being used to accelerate production. The two factors which are retarding the economy is the high 3 per cent rate of population growth and its major export jute not having recovered its pre-war production volume while it has had to face a declining world price market. The main thrust of the First Year of the Plan should be to restore its agricultural production, rice, tea, oilseeds, cotton and sugar, even as it has done successfully with increased production of fertiliser, steel and ship-building.

China : The report on China's development issued on the occasion of the 24th anniversary of the October 1 founding of the communist government records a remarkable progress during the quarter century. Food grain production has more than doubled from 110 million tonnes in 1949 to 240 million tonnes and increased production recorded in cotton, sugar and tobacco. Steel output has increased from 1,60,000 tonnes in 1949 to 23 million tonnes. The light engineering and machine building industry has grown by 280 per cent in the last 8 years to the point that the Country has become self sufficient in engineering equipment. The decentralization of its industry is noteworthy. Half of the Country's cement comes from small cement works, 90 per cent of its 2,000 countries have their own farm machinery works and half of them have small chemical fertiliser plants that produce 50 per cent of the Country's synthetic ammonia. Every province and municipality has at least one small iron and steel mill. It has paid off its debt to the Soviet Union by 1968 and is free of internal and external debt. In a note after a visit by a U.S. scholar, some further information on local organisation of a commune and its functioning is given. The basic organisation of the commune is the 319 member production team, 20 production brigades, in a population of 59,287 persons. The communes' birth rate had declined from 2.74 per cent in 1965 to 2.52 per cent.

Out of 6,045 couples of child bearing age, 4,100 use contraceptives (1,416 loops, 533 pills, 547 sterilisation, 265 abortions). Its foodgrains have increased from 298 catties in 1949 to 1,125 catties in 1972, its 15 productive units range from a hydro electric station and a building materials factory to a coal mine and a farm implements farctory, its R & D in hydro electricity, agriculture and rural industry relies largely on local talent. The living standard of the people has risen from 93 Yuan in 1949 to 456 Yuan in 1972 per family with similar advances in health and education. Science and technology in the Country also is decentralised. The Academica Sinica which had 100 research laboratories now has only 20 in atomic energy, and space research, the others having been shifted to provincial bureaus. All scientists and intellectuals spend a part of the year in rural communes in agricultural tasks, helping the peasants. Research themes which are heavily applied are selected by senior and junior scientists. The universities now opened after the cultural revolution have a shorter curriculum, (the five or six year engineering course is now reduced to 3 years) and universities have workshops and factories where students spend 4 to 6 weeks annually. Workers and peasants are trained as scientists, technicians and barefoot doctors. The 30 provinces are the unit for the implementation of science and technology policy in the Country.

Monetary Reforms : International Monetary Reform received a setback at the annual September meeting of the International Monetary Fund in Nairobi, and at the meeting of the committee of 20 preceding it. At the committee of 20, the three basic issues were left unresolved with sharp differences of views. First in spite of hopeful reports analysed in earlier issue of the Bulletin (Vol. III pages 637 — 638) the U. S. on the one hand and European countries on the other could not agree on the rules for correcting serious imbalances in a Country's international payments. The U.S. wants this to be done automatically on the basis of a country's reserves. Europe wants this done at the discretion of the country. Second the convertibility of the dollar into gold emerged as another point of controversy. The U.S. will not agree to such convertibility except as part of an overall monetary and trade agreement. Europe wants convertibility to be delinked from these other factors. Third the linking of monetary reform to development aid, SDR's and aid, has sharply divided U.S. and the developing countries, with other developed countries taking a neutral position. What is even worse, the group of 24 developing countries at Nairobi also did not arrive at a consensus on these issues. India's position is probably the most rational, revolving around balancing national and international interests, the imperative of convertibility and stable exchange rates, SDR's to replace gold, linking SDR's with development aid and giving the developing world its due share and voice in the decision making processes of the Fund. In view of the basic disagreements, the annual meeting of IMF did not discuss this most important issue and decided that the committee of 20 will meet in January and June 1974 to give everyone time to work out compromises to agree on the new system by July 31, 1974. It may be wise to introduce the new system by stages as agreement is reached on each point, and not wait indefinitely for the whole package to emerge. Every day that is lost is a setback to the developing countries and the world economy. As the IMF annual report points out, the present highly variable exchange rates adds to the uncertainties of the developing countries. The first effect on them is to import inflation into their economies. Their export earnings

have been rising steeply by 17 per cent to $ 78 billion in the first quarter of 1973, their reserves have gone up by 27 per cent between July 1972 and July 1973, but this is temporary and exceptional their import prices are going up fast and producing a general price rise. In this situation free floating exchanges are an index of speculation, not of the true relations between currencies. The industrialised countries must control their inflation and intervene in the floating exchange market. Even in export gains, it is oil exporting developing countries which have marked up gains. During early 1973 the developing countries exchange rates depreciated by 2 per cent compared to that of the developed countries. The long term debt of the developing countries was reduced by 1½ to 2 per cent as a result of the latest currency alignments. For these countries the net flow of financial resources to them was $ 20 billion, an increase of $ 2 billion over 1971, involving an overall balance of payment surplus of $ 16 billion. The net effect of these movements was to make economic planning and management uncertain. The 1971 and 1972 GNP growth, price increase and volume of trade of selected developed and developing countries is seen in the table given below :

	G. N. P. Growth Rate (% increase)		*Price Increase (% increase)*		*Volume of Trade (% increase)*	
	1971	1972	1971	1972	1971	1972
Industrial Countries	3.5	5.5	5.5	4.5	6.0	10.6
1. Canada	5.8	5.8	3.1	4.6	10.0	16.3
2. United States	3.2	6.1	4.7	3.2	8.5	13.7
3. Japan	6.2	9.2	4.8	4.8	1.7	10.2
4. France	5.0	5.7	5.0	5.6	8.0	13.5
5. Federal Rep. of Germany	2.7	2.9	7.7	6.1	10.9	9.2
6. Italy	1.6	3.2	6.6	5.9	—3.3	12.0
7. United Kingdom	1.6	2.2	9.0	6.3	4.0	8.9
8. Other Industrial Countries	3.2	3.9	7.1	7.6	3.9	6.8
Primary Producing Countries	5.6	5.9	10.2	14.7	5.1	2.3
1. More developed areas	5.2	5.4	—	—	2.7	0.7
2. Less developed areas	5.7	6.1	—	—	6.2	3.1
World	3.9	5.6	—	—	5.7	8.2

The 1968 Basle agreement on sterling balances under which the Sterling area governments are guaranteed against depreciation of sterling by the U.K. was extended in September for a further six months by the U. K. With the pledge that the countries will not reduce their sterling balances, this move makes for one element of stability. The International Finance Corporation of the World Bank in another move to reduce instability has advised developing countries not to borrow from the Euro-currency market because of the risks arising from the floating rate of Euro-credits. This might increase the future cost of the repayment of the credit. To improve the terms and conditions of investment financing from this simple and flexible market, IFC offers to join with the market to raise credits for the developing countries. This would be a stabilising service to them.

The World Economic Situation: Proceeding from last year's analysis (See Vol. II No. 11 pages 19-20), the report of the President of the World Bank at the annual meeting in September lays down a clear and challenging strategy for the development of the developing Countries. Last year the centre piece of the report was that development strategy of the developing countries must be, not simply increase of GNP, but the reduction of poverty. In this year's report he begins by pointing that the multiple development objectives cannot be measured by a single measuring rod, GNP, which was never meant to measure how goods and services produced are distributed. In fact as 75 per cent of all income is received by the upper 40 per cent of people in developing countries, GNP growth is essentially a measure of the welfare of this upper income group. It is quite insensitive to what happens to the poorest 40 per cent in the countries. From this analysis, he suggests that now we the developing countries should concentrate on lifting the rural poor out of their poverty as a start. This means that of the 60 per cent poor in the third world, attention should concentrate on the 100 million rural poor families who are the small holders living on subsistence agriculture. The size of their farms is small and fragmented. More than 50 millions own less than one hectare. A recent F.A.O. Survey shows the skewed distribution of land holdings. The wealthiest 20 per cent of land owners own 50 to 60 per cent of the land. In Venezuela they own 82 per cent, in Brazil 53 per cent, in Philippines, Pakistan and India they own 50 per cent. Conversely 100 million holdings of less than 5 hectares are concentrated on 20 per cent of crop land. So the strategy should be to increase production on small farms to achieve a growth rate of 5 per cent by 1975. Studies in India and Brazil show this can be done as small farms there are as productive as large farms. This means bringing the new technology to dry land farming and taking risks, improvising and experimenting. It means land and tenancy reform, better access to credit, assured availability of water new rural structures like our SFDAs, MFALs. It also calls for top engineering talent to design low cost solutions to irrigation of small farms, reformed education systems conveying practical information on agriculture, nutrition and family planning. The objective is practical, to stop the increasing of the Gulf in the incomes of the rich and poor by 1975 and reduce the distance in the second half of the decade. The whole strategy reads like the Approach to the Fifth Plan and this State's Perspective Plan—to concentrate on removing rural poverty. The only element that is missing is subsidised distribution of essential goods for a period of time to the destitutes, among the rural poor—which this State's Planning Commission has under considera-

tion. And to this new strategy of attacking rural poverty, the President of the Bank proposes to lend part of the $22 billion in the next period 1974-78, 70 per cent of which will have a component to aid the the small farmers. In the meanwhile the developed countries should execute their pledge of 0.7 per cent in ODA and arrange for relief in their trade and debt relations. The external debts of the developing countries have reached $80 billion and its servicing costs them an annual $ 7 billion. What is preventing developed countries fulfilling their trade and aid pledges is not the needs of their own countries but " the endless spiral of their own demands for additional consumer goods". They would need to give no more than 2 per cent of their incremental annual income to redeem their pledge and a small reduction in the tariffs will increase the export incomes of the poor countries by $ 4 billion per annum. Now it is for the 24 rich countries of the world to pay in the $4.5 billion third replenishment to IDA before June 30, 1974. If that were not done IDA will terminate. And that cannot and must not happen. At the meeting, agreement was reached on reducing the U.S. share of this replenishment from 40 to 33 per cent and for the 24 countries to contribute $1,500 annually. Among the new areas that the World Bank will enter is nuclear development—small and medium nuclear power installations for developing countries which are faced with serious problems of the rise in price of fossil fuels. This area is important as a means of meeting the power needs of the developing countries.

GATT: The Ministerial meeting of the General Agreement on Tariff and Trade (GATT) concluded its 3 day meeting in Tokyo after adopting unanimously its 11 point declaration calling for a further round of comprehensive multilateral negotiations to be concluded in 1975, ensuring a larger share of world trade for the developing countries, through freer access to the products from these countries at remunerative prices. The negotiations will cover all trade barriers, tariff and non-tariff, and will offer non-reciprocal preference to developing countries. The talks will cover agricultural products for the first time as pointed out in Vol III page 638. The link of the trade negotiations with monetary reform is at the moment lip service but it is to be hoped that well before this round is complete in 1975 we will have a freer trade and stable monetary system. Now the bargaining will begin and unlike UNCTAD, it is not resolutions or the declaration which is the end product. Here it is the tariff cutting and the lowering of non-tariff barriers on all commodities — manufactures and agricultural—which will really be a major test of the Second Development Decade strategy. There are 3 groups of countries—the developed among whom the negotiations will be on a reciprocal basis, the developed and developing countries between whom it will be in part on a non-preferential basis and the developed and least developed between whom it will have to be on a completely non-preferential basis. It may be that this will lay the ground work and provide the spirit for the elusive monetary reform which we also desperately need.

World farm output: The September meeting called by FAO of major wheat exporting countries has concluded that the danger of a major grain shortages has now passed. It is now necessary to help, bring down the world wheat price which has hit India and developing countries badly. The U.S. is extending its price support programme for 1974 in Soya beans, Sorghum, maize, barely on the production from upto a maximum of 89 million acres to which an additional 30 per cent should be added. The FAO computes that the 1972 world agricultural trade was up by

15 per cent, half of it, however, a reflection of inflation and not of quantitative increases. World wheat production in 1973-74 is expected to be much larger and so would cotton, rubber, jute and milk products. World production of oil seeds will reach a peak of 123.5 million metric tonnes in 1973-74 according to Oil World Weekly. The main increases will be soya beans and U.S. cotton seed particularly in China and India, groundnuts (India) and sunflower seed (USSR). The World agricultural outlook seems similar to that of our Kharif forecast.

Non-aligned Conference : The economic charter approved by the non-aligned summit conference in early September in Algiers emphasises the right of countries to nationalise their raw materials and industries and brings out the dangers of multinational corporations. In nationalising its resources, the countries affirmed their right to decide on the quantum and manner of indemnities to be paid. This is a decision of principle—a principle which might work to the disadvantage of the majority of non-aligned countries as it does in the case of India and its demand for crude and petroleum products. It is a case where the principle of equal rights has a price which has to be paid by all—both rich and poor nations.

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II. Agricultural Development

Paddy :

The Kuruvai Paddy harvest started in September and a bumper crop seems to be in the offing. Dr. Borlaug, the Nobel prize scientist, after a tour of the paddy fields in the South stated that there will be a measurable jump this year in paddy production which will be surpassed next year if the requisite fertilisers are available. Against last year's 5.1 lakh acres under Kuruvai in Thanjavur, this season 5.5 lakh acres are under the crop. The government has set up 176 purchase centres in the district including 20 mobile purchase centres for procuring Kuruvai paddy directly from the ryots. It is hoped that these centres will function speedily and smoothly in the interior areas so that the farmers can dispose of their produce without too much transport costs and without danger of distress sales. The southernmost area Kanyakumari, Agastheeswaram and Kottaram have faced a water problem for their paddy crops. Due to the generators being under repair, water had not been released in August from the upper Kodayar Dam which flows into the Pechiparai reservoir and irrigates those paddy areas. After some discussion and representation, water was let out of Kodayar towards the end of September and the paddy crop has received its irrigation. There too a good harvest became possible.

Take over of Rice distribution :

There will be no take over of wholesale distribution of rice in the Country, according to the decision arrived at the mid September conference of Chief Ministers and the Union Minister of agriculture. Kerala and Assam will take over the whole sale trade in rice and all other States will intensify their procurement and levy system. It was decided that out of this

year's 42 million tonnes of rice production (some optimistic official estimates place the production at 45 to 46 million tonnes), 5 million tonnes are to be procured and 2.9 million tonnes given to the Central pool. In coarse grains, 1.6 million tonnes are to be procured and 6 lakh tonnes given to the Central pool. The rice procurement target for this State is 3.5 lakh tonnes, of which 2 lakh tonnes will be for the Central pool. No decision was made at the meeting on procurement prices, as this State was of the view that the Rs. 10 increase in support prices made in August and reported in Vol. III page 639 of the Bulletin was adequate to meet the farmers' costs. Most other States suggested increasing the procuring price to 70-75 Rupees per quintal, with Kerala suggesting Rs. 85 per quintal. The problem to be faced with these proposals is that such a price rise will fall heavily on the consumer. As there are no funds—Union or State to subsidise issue prices, if the procurement price of paddy is raised to Rs. 75 per quintal, the issue price will have to be raised by Rs. 15 per quintal and borne by the consumers. It is alright for Mysore to raise its procurement price of fine varieties of paddy to Rs. 100 per quintal because the variety is consumed by the upper classes. But the justification given for the rise that it is to help feed the vulnerable sections of people can be true only if the upper classes as a result leave the low grades to be consumed by the poor. The State will therefore continue the levy cum procurement system for Kharif paddy and not take over the wholesale rice trade. For the Country the basic problem is the gap between two factors–the demand of the vulnerable urban and rural group and the marketed surplus. The demand at the rate of 8 kg. per head per month for this group is 53 million tonnes while the marketed surplus is only 32 to 33 million tonnes out of an output of 115 million tonnes. It is herethat a levy system is needed to supplement the procurement and it is only if that operates that the take over can function to meet people's needs.

Interstate Co-operation :

In view of serious rice shortages in other States, Tamil Nadu provided rice supplies to some of them in September. To help the victims of floods in Gujarat, this State has sent some 1,000 tonnes of rice. To meet the severe rice shortage in Kerala, Tamil Nadu gave it 8,000 tonnes of rice. To relieve the hardship caused by the drought in Mysore, this State provided it with 2,000 tonnes of rice and 1,000 tonnes of ragi. In exchange, Mysore despite its own power shortage is planning to provide Tamil Nadu 30 million units of electricity. Against this growing co-operation, the question of food zones has been under debate. The September Chief Ministers conference decided that the single State food zones should continue for paddy and rice. The chairman of FCI has suggested that the food zones should be enlarged and that the four Southern States might be formed into one food zone. Then paddy and other foodgrains could be moved freely among them, the farmers could get a good price everywhere and there will be a uniform price all over the region. This suggestion received a negative first reaction from this State on the grounds that its economics and administrative implications had not been studied and the fears that completely free movement between the States may lead to new imbalances. Actually the proposal was first made 3 years ago and was dropped because of the opposition of the Agricultural Prices Commission. It is not ready to be put into operation this year. What is needed is a further technical study of the proposal by the four State governments from the point of view of (a) the total food production in each State, (b) ways of increasing this total through optimal use of inter-state

irrigation flows, (c) the forseeable movement of foodgrains between the States, (d) the effect of such movements on prices from the point of view of producers and consumers, (e) the role of middlemen in the trade and (f) the effect on procurement and buying and the distribution system. On the basis of such a study, the four governments can take a decision on it at a future meeting of the Southern zonal Council.

Research and new strains :

A new paddy strain, Tiruveni, a cross between Annapurna and Pattambi 15 has been developed in the State and is being tried out in some parts of Thanjavur district for yield, duration, and pest resistance. Its consumption of water and fertiliser requirement should also be evaluated before it is popularised. A new technique, the treatment of food and non-food crops by hormones, is being used to increase the quantity and improve the quality of the output. Of the many hormones used, two — MH and NAH — are now being successfully applied to a wide variety of cash and food crops and fruits. As a result of testing at the ICAR Station at Coimbatore, NAH is being used by the cotton growers in Amaravati and Akola on cotton varieties – MCU — 1, MCU — 4 and PRS 30/2 — with significant increases in cotton yield, particularly in the case of MCU — 1. Both hormones, particularly MH, are also going into use in groundnuts, resulting in larger pods and greater weight of the crop. The use of NAH in increasing the production of brinjals and tomatoes, increasing the yield of chillies in Tiruchi district by 431 kg per hectare (with an additional income of Rs. 1,080 less the cost of Rs 45), accelerating the harvest of pineapples and mangoes and preventing the premature dropping of fruits like jackfruit, guavas, papayas, and oranges by around 65 per cent which have been demonstrated in this and other States. The Horticultural Department of the Tamil Nadu Agricultural university is developing new high yielding, early fruiting varieties of bendai, A — 18, A — 2. They are now in the final stages of trial before being released to vegetable farmers in the State. The university is also investigating a new pest that is affecting arecanut trees in the Kallar and Mettupalayam areas. The identification of the cause in the plants, soils, water etc is now underway. Another techique to improve seeds through solar irradiation, popularly called sunbaths, which results in improved yields, finer quality and virus and pest resistance is also under study on the basis of the successful experiments in a wide variety of food and non-food crops carried out in the Soviet Union. Its use in this State should be pioneered by the Tamil Nadu Agricultural University. The University should also take the lead in communicating on a more massive scale some of the proven results of research and the popularised modern agricultural practices to the farmers. For this the university should be entrusted with a programme to be run from the Tiruchi Station of AIR covering full courses on farm management and the use of new seeds, and optimal use of fertilisers and discussion periods on questions posed by farmers and problems faced by them. The universities in Punjab and Kerala are running such sucessful farmers' education programmes through the local AIR stations.

Small farmers :

The small and marginal farmers' problems in the State were reviewed at a regional seminar in Madras in early September. The major problems they face were identified as lack of irrigation facilities and increasing fragmentation and the problems of credit, fertilisers and seeds that flow from it. There was perhaps too

early an admission of lack of success that has so far attended programmes of joint and/or collective cultivation. The two structural changes needed in the States' rural and agricultural scene are land reforms and joint cultivation. Both are needed as part of the programme to combat rural poverty that was referred to earlier. While a good start has been made in the State on agrarian reform, joint cultivation has so far been a non-starter and should be high on the agenda of State action to increase the productivity of agriculture and raise that of the small and marginal farmer in particular. The success of lift irrigation societies where infrastructures are shared without interfering with individual ownership of lands is a very useful pointer to the direction in which various forms of joint cultivation can be promoted. The proposal to establish a farmers' service co-operative financed by the government could be one further move in this direction. In any case the credit needs of the small farmer which are still being met by various kinds of money lenders call for a service from the co-operative credit societies, farmers service societies, land development banks and nationalised banks. For the immediate future—for this and next season—a proper and speedy distribution of inputs, particularly fertilisers should be one of the priorities. The distribution of fertiliser cards to them by October 15 and the increase in the co-operative distribution points in the rural area in some districts are two appropriate developments for the small farmer.

Fish farming :

For the first time in the Country, perhaps in the world, aerial survey techniques are being used to map and assess the fishery resources. The survey costing Rs. 24 lakhs was undertaken with the help of seven vessels and an aircraft from the Survey Company of India on the South West Coast of India. From September 25 to October 2 the area from Trivandrum to Malwan covering a length of 110 kms. and 55 kms. seawards was surveyed because at the period pelagic fish shoals are close to the surface because of the hydrographic conditions of the region at that time. A similar survey should be undertaken on this State's coast at a time when the fish shoals will be surfacing.

Poultry farming :

The Tamil Nadu Poultry Development Corporation established in July with an authorised capital of Rs. 1.5 crore is aimed atspeeding the development of poultry farming in the State in accordance with recommendations of the State Planning Commission's Task Force (See Vol. II No. 12 page 2). The Corporation will assist in (a) the increased production of chickens (b) enhance the supply of poultry feed (c) organise the marketing of poultry and eggs (d) promote poultry and eggs co-operatives and (e) mobilise financial resources from the nationalised banks for the industry. Thus it will be the link between poultry farmers in the rural areas and the consumers of poultry and eggs in the cities and supply the missing links in the chain of supply of poultry feeds and marketing of eggs. The Corporation has taken over the hatcheries at Kattupakkam, Hosur, Kappalur and the 38 poultry extension centres in the State. Three more hatcheries are being set up in the Tirunelveli, Madurai and Tiruchi districts. One of the urgent tasks now being undertaken by the Corporation is to help in the vaccination of chickens against the killer marex disease. This is a world wide poultry disease and the U. S. is said to lose annually $ 200 million through this disease. The virus is spreading in the State particularly among the high yielding stock in the Tambaram and Hasthinapuram areas.

The vaccine against the disease has to be imported and the Union Agricultural ministry has obtained Rs. 8 lakh foreign exchange for importing the vaccine. In addition, the Indian Veterinary Research Institute is working on producing the vaccine internally. The vaccination programme is needed urgently in the State and it is only after vaccination that the Corporation should issue its certificates as to the health of the chicken. On poultry feed, the Corporation is expanding the Nandanam unit's output from 300 tonnes to 1,000 tonnes per month and expanding the SFDA feed units in Madurai, South Arcot and Tirunelveli. Egg co-operatives are being expanded and strengthened and the corporation staff collect eggs from the co-operatives and supply them with feed stock. The financing of this activity by the nationalised banks has had a good start with the State Bank of India financing the distribution of 2.5 lakh chickens to 1,700 farmers in Tiruchi district. The projeet is producing 50,000 eggs daily out of which 20,000 are sent to Madras and sold through the milk kiosks at 4-5 paise less than the market rate. The State Bank is also financing a similar project in Thanjavur district. This is a good start for the new Corporation and is one way in which the small farmer's income can be augmented—both through hatcheries and producing poultry feed. In view of the many diseases to which quality stock is exposed the corporation should see that poultry farmers provide the minimum of 2½ sq. ft. for each bird as a sanitary safeguard.

Tea and Coffee:

The tea industry is going through a depressing period in the State, the region and the Country. In the State, the tea crop for 1972 was 54.5 million kg which was 3 million kg less than 1971. In the Southern region it was 103 million kg in 1972. In the North the production was 346 million kg. What is serious for the industry is that while costs of power, diesel, machinery, fertilisers and labour have gone up, prices have been steadily declining. Tea is the largest earner of the State's foreign exchange at Rs 18 crores in 1972. But the Coonoor auctions saw a price decline from Rs 5.55 per kg to Rs. 5.27 per kg and the Cochin auctions from Rs 6.88 per kg to Rs 6.67 per kg. One problem of the industry in the State to which reference has been made in Vol III page 643 of the last issue is the problem of the small planters who are largely concentrated in the Nilgiris district and whose efficiency parity has been estimated at 23 per cent of the average estate. It is here that UPASI's development efforts aided by the State should be concentrated. On the export front there is a serious decline in tea exports. From 219.5 million kg in 1971-72, tea exports declined to 201.3 million kgs in 1972-73, (against export quota of 211.5 million kgs) and further dwindled by 9 million kgs in the period April-June 1973. The immediate problem is to step up our exports to attain this year's quota of 217.8 million kgs and next year's 224.3 million kg. This is no easy task and no nationalising of the export trade is going to help. The Union government has come out with the statement that it will not nationalise the export trade because (a) the tea industry is not a priority industry on which scarce investment resources can be expended and (b) the real problem is to improve our competitiveness vis-a-vis the African countries. For this the programme of specific promotion of Indian tea brands by an autonomous organisation and an intensified R & D programme to which the industry should contribute is essential (See Vol III page 642). The industry's plea that it be offered an export subsidy is no real answer,

as our tea if properly promoted, with its uniform quality from the South and special fragrance of the Northern brands can and must stand on their own. But this declining export trend has led the Union Planning Commission to revise downward the export target of the Fifth Plan from 256 million kgs earning Rs 184.9 crores to around last Year's export of 201 million kg. Similarly the production target of 550 million kg for the Fifth Plan based on a 3 per cent growth is to be reduced, with concentration on continuing schemes and slowing down of new schemes. This will involve revising the Fifth Plan target of 125 million kgs for the South and 452 million kgs for the North. On the question of sick tea gardens analysed in Vol III page 575 of the Bulletin, it should be noted that of the 38 closed tea gardens, none is from this State. The symptoms of sickness as identified by the Task Force are (a) excessive capitalisation, (b) lack of decision making capability, (c) unscientific agricultural practices, (d) improper manufacturing processes, (e) misapplication of funds, (f) lack of good marketing arrangements and (g) poor labour-management relations. Now the Union commerce ministry is looking into amending the Tea Act to give it investigative powers to decide which of the 38 closed gardens are permanently sick and should be sold off, which should be taken over and improved through providing the management with financial, managerial and consultancy assistance, and which should be taken and run by the government. It should be repeated that the large majority of plantations are well and efficiently run. Their problems are problems of a declining foreign market and rising internal costs.

Coffee production in 1972-73 was 8,250 tonnes in the State, showing an increase of 760 tonnes over the previous year. For the Country, production attained 90,000 tonnes as recorded in the Vol. III page 642 of the Bulletin. This means that foreign sales to quota and non quota countries will be over 50,000 tonnes. In the case of coffee, there is growing demand for Indian coffee and export prices are 25 per cent higher than internal prices. Internal coffee consumption is also increasing so that next year's and the Fifth Plan's production should allow for futher increases.

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III. Industrial Development

Salem Steel :

In conformity with the statement in Vol. III of the Bulletin (page 645), it is now known that the Union Planning Commission has allocated in the Fifth Plan for the Salem steel plant about half of the capital cost of Rs. 308.76 crores, namely Rs. 150 crores. What this allocation means is that the first stage of setting up the cold rolling complex at a cost of Rs. 90 crores including a foreign exchange component of Rs. 50 crores will be executed and completed on schedule. Global tenders have been invited for this first stage plant which should go into operation by 1978. It is necessary that the second stage of the plant be proceeded with without any further studies and project

reports. There have been several technical and project reports on the plant and the Sarin Committee after its tour of Europe submitted a report on the product mix and plant processes (See Vol. II No. 10 page 21) on the basis of all of which the Union cabinet cleared the project. Further, there are 2 committees at work on detailed exercises on steel making and iron making at Salem. Under these conditions there is no need for a further detailed report from Dastur as that would only delay the completion of the project, and any delay will send up the capital costs, as we will know from lengthening the gestation period of so many of our public sector units. It is therefore also essential that infrastructures now being built in Salem — buildings, railways, roads etc, should cover the entire project and not only the first stage. The balance of the Union Planning Commission's allocation of Rs. 535 crores in the Fifth Plan are for the Vishakapatnam and Vijayanagar steel plants. While Salem Steel will not only make no losses but a large profit from its start at even 75 per cent capacity use, Vijayanagar with a capital outlay of Rs. 753.1 crores and 2 million tonnes capacity will be making a loss ranging from Rs. 69.5 to Rs. 75.8 crores per annum on the basis of 90 per cent capacity use and 7 per cent depreciation per annum. It is a pity to plan a project from the start on this losing basis and arguments that even though the cost of a tonne of steel at the two new plants will be double that of Bhilai and Bokaro, it will save the drain on foreign exchange resources which is rising every year (Rs. 215 crores for this year) are not convincing and valid. It is necessary that the Union government take a decision on the alternative project proposed by MECON under which Vijayanagar will produce 3.3 million tonnes of liquid steel and of which 2.31 million tonnes of hot rolled strips and 6,55,000 tonnes of billets will be produced, giving a higher ratio of finished products than in other plants. Depending on the parallel decision taken on TISCO'S expansion vis-a-vis Bhilai and Bokaro on hot rolled flats, there is one advantage in producing flats in Vijayanagar—and that is to save on the growingly impossible railway bottleneck in meeting the needs of the Southern automobile manufactures for these products. Similar cost reducing exercises are needed for the Rs 747 crore Vishakapatnam plant which at the 2 million capacity is expected to lose Rs 45-51 crores. It is possible to launch these projects without such a continuing loss element.

Neyveli :

In the earlier review of the performance of the public sector undertakings (Vol. III page 645), the Neyveli Lignite Corporation was classed under the sick units category. If the additional investment of Rs 30 crores in equipment and machinery is now made, Neyveli can break even from 1977-78. Every day's delay on the additional investment decision is sending the total cost up. It is hoped that the visit of the Union Deputy Minister in late September to the plant will lead to a speedy decision. The September strike of work clerks did not improve the chances of obtaining such a speedy decision. It reduced power generation from 300 MW to 250 MW a day at a time when the government was to announce the 15 per cent power cut. Industrial peace in the plant is imperative for its productive functioning.

Company expansion :

In July, 30 companies were formed in the State with an aggregate authorised capital of Rs. 3.64 crores. Two of these were government companies, one of which is the Tamil Nadu Poultry Development Corporation referred to earlier (Vol. III page 641).

Two other companies have been established to fabricate low medium and high pressure valves for oil steam and non-aggressive fluids. They will also assist the development of ancillaries.

Mamandur mining:

The Mamandur non-ferrous metal reserve first located and explored by the Geological Survey of India in 1963 showed in further drilling and studies in 1970-71, the existence of 1.5 million tonnes of iron reserves with 4.5 per cent zinc, 2 per cent lead, 0.5 per cent copper. At that time, this Tiruvannamalai deposit was left alone as uneconomical to exploit but now with acute shortage of base metals in the Country and their rising world prices, the Mamandur mines are to be opened up by the Bharat Gold mines. By the end of the year, pilot plant studies on bulk samples of zinc, lead and copper will be completed. Thereupon a small Rs. 1.5 crore mill will be set up at Mamandur for the production of 250 tonnes per day of zinc for the Alwaye zinc smelter, lead for the Day Bihar Lead Smelter and copper for Hindustan copper. The annual production will be 4,500 tonnes valued at Rs. 1 crore.

Enfields:

Enfield's second motor cycle factory with a capacity of 14,000 motor cycles and 2 medium and 11 small units were inaugurated in mid September in Anaikaraipatti in the backward district of Ramanathapuram. This was one of the projects recommended by the State Planning Commission on the basis of the Dharmapuri Techno-economic survey (See Vol. III page 398). The indigenous content of the cycles is 100 per cent and the project's employment potential is 1,000 workers. This will be the first effort in a backward district which will also contribute to the export earnings of the Country. Enfields exports were Rs. 30 lakhs for last year and will increase to Rs. 40 lakhs this year.

Industrial Estates:

In addition to the Ambattur industrial estate attached to automobile and engineering industry of the locality and the Coimbatore estate set up to produce ancillaries for the textile industry, SIDCO is setting up an estate at Thiruverumbur near Tiruchi to serve as an ancillary to BHEL. The estate will start with 12 sheds costing Rs. 20 lakhs and provision is made for another 15–20 sheds. The other new estate is the one in the Ranipet complex to which reference was made in Vol. III pages 579-580. In addition to the Madras electronics estate, the government is planning to open additional electronics estates in Coimbatore and Salem with the help of Japanese electronics firms. An encouraging feature of the operations of these estates is the speed with which young entrepreneurs who apply for sheds at the Guindy and Ambattur estates are being granted the facilities by Technical Personnel Assistance cell of the State Directorate of Industries, together with training in industrial management for these from backward districts, and the speedy disposal of loan applications (within 2 months) by the nationalised banks — in refreshing contrast to the frustrating delays reported from Andhra Pradesh (See page 659 of Vol. III).

Other Industrial developments:

The government is planning to set up a newsprint plant in the Nilgiris. In view of the current and future shortage of newsprint, this new plant which will be government owned and which is being planned with the help of the experienced Seshasayee's advice is a welcome programme. Ashok Leylands is expanding its capacity for production of commercial vehicles to meet the growing demand of

the public transport system and freight operators. On the small industries front, the new commissioner is organising a market intelligence unit in order to locate for small industries the necessary markets. Also a pool of consultants aid in finding risk capital and increased raw materials supply for the small scale industries. The problem of the State's cement industries who now almost completely lack coal, forcing them either to close down or switch to high cost oil firing has been referred to earlier. The State government is negotiating with the Union railway and shipping ministries for the transport of coal to the State. How much of this will be available for the cement industry depends on first meeting the needs of the thermal stations. It looks as if the cement industry will have to depend on barter deals that the State can make with neighbouring States for meeting the power needs of the industry.

Handlooms:

The government has under considertion a scheme for providing handloom weavers silk yarn for Rs. 3 crores. A Rs. 25 lakh zari factory was inaugurated in Kancheepuram at the end of September. The handloom export trade in the State is worried over the Union government's proposal to reduce the cash assistance to handloom exports by upto 75 per cent. The government's decision to reduce the export subsidy is due to the fact that the textile export market is buoyant and the subsidy has actually led to the kind of competition in the export trade that has reduced export earnings. The subsidy did increase handloom exports from Rs. 12 crores in 1970-71 to Rs. 36 crores in 1973-74. The export price rise characterises the European and North American markets, whereas our traditional markets in Malaysia, Singapore and Africa for lungis, sarees, and Madras handkerchiefs not only do not record a rise in prices; in fact in these markets our exports face serious competition from Japan and Hongkong. It is also true that due to yarn shortages analysed in the last 3 issues (See Vol. III pages 506, 580 and 646), and the mills having obtained stay orders from courts, the costs of yarn have gone up by around 30 per cent. In this situation the reduction of the export subsidy which is the right decision should be staggered over a longer period of time and in smaller amounts. The handloom sector as a whole needs overhaul and a policy. The State should help in the revival and effective functioning of the handloom co-operatives. The Union government should translate into action now its declared policy in reserving certain categories of cloth for handlooms and protecting them against both mills and power looms. For the Fifth Plan, the hopes held out in the Approach paper should become legislative practice. Part of the poverty problems resides in this sector as it does in the small farm sector. On both, policy and action should go hand in hand.

Private Sector Reports:

The annual report of India Cements for 1972-73 reflects the difficult period that the cement industry went through during that year. Earlier and the current issues of the Bulletin have dealt with the problems faced by the industry from the power cut, decrease in coal supply, the long gestation period, increased transport costs all of which have pushed up costs 3 to 4 fold—from Rs. 150 per tonne to Rs. 450 per tonne. With demand increasing, the short supply has led to adulteration and black marketing. The year's record of the company is a poor one with a decline in value added by Rs. 36 lakhs. To maintain its dividend at 8 percent, it has drawn on its reserve. For the future the

demand for cement will continue to increase due to expansion programmes of rural housing, warehousing, roads, railway sleepers schemes etc. Under these conditions the company reports an increased investment in R & D with a view to increasing production and economising on costs.

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IV. Education Science and Health

Unrest in Educational Institutions:

September saw an increase in the number and nature of unrest in educational institutions. There are twenty incidents reported from 9 centres in Patna, Ludhiana, New Delhi, Bangalore and its surroundings, Mysore and its surroundings, Ponneri, and Lucknow. The most serious and violent incidents occurred in Bangalore and Mysore and in the towns linking the two, leading to deaths, serious injuries to the public, students and the police and the closing of the two Universities for about two months. The cause for this prolonged and acute violence was the general unrest in the State in September over food shortages and the bandhs and strikes that accompanied them. There was extensive damage to State transport, railway wagons and shops. Problems of student transport led to 3 incidents in Ponneri (Madras) and New Delhi. Academic disputes accounted for 2 incidents in Ludhiana and Madras. In Ludhiana the agitation of students and teachers led to the setting up of a parallel college where classes are held under shady trees. Teachers Day in New Delhi was marked by a boycott of all government functions for the day by the 15,000 Higher Secondary teachers who were in this action protesting against the prevailing political nepotism, discrimination and down grading of the teachers' status. The Patna violence in mid September was caused by the death of a student in a truck accident and the late September disturbance due to disagreement between student groups as to the date of the student union elections. Thus a wide variety of factors spark unrest, violence and closure of our educational institutions. These factors are but instruments on occasions for the manifestations of a deeper educational and social malady. And on both social reform and educational restruction a start must be made now.

Educational Reform:

Educational reform at the university level has to start with stopping further quantitative expansion as pointed ont in Vol. III of the Bulletin (pages 651 and 652). To attain this objective of stabilising university enrolments, we seem to be inclining towards at least a verbal agreement on the needed steps. First there are to be no new universities during the First Plan, though as pointed out in the last issue, new universities like the Madras University of Technology is simply upgrading existing institutions. It will not add a single student to the existing enrolment. But even here political expediency overrules the reform principle. On of the compromise decisions on the Andhra Pradesh tangle is the decision to start a new Central university in Hyderabad.

Second and even so some progress is recorded in recognising that the ptoblem is the starting of colleges. To stop this, it has been proposed that the preconditions for establishing colleges should be increased — the endowment should be raised to Rs. 10 lakhs, and the number and quality of staff should be increased. Further no college established after 1 April 1974 should be eligible for grant-in-aid. These suggestions are made on the assumption that it is the private sector which keeps opening new colleges. This is not true as noted in the case of this State where the government is opening 5 colleges this year. The results are pathetic. The Government Arts College at Cuddalore reports that there are 6 vacancies in its English department staff and the result is there is no English language teaching. Again, some of the courses have no class rooms and students and teachers go wandering around looking for some empty space. The tragedy of quantitative expansion is shared equally between government and private colleges. In this situation, it is good that UGC and the Union Ministry of education have begun thinking along lines of regulated college expansion.

The private colleges in West Bengal which run most of higher education could not pay staff salaries in August/September. Not being able to increase their fees, and having had to cut their admissions by 33 per cent in 1972-73 because of very poor SSLC results, which further deteriorated in 1973-74, the colleges are on the point of financial collapse. This is the obverse of the rapid expansion situation, in that colleges are now made to exist financially by taking in an increasing number of students. As part of the national economy measures also, the UGC has stopped its grants for building construction, summer institute, seminars and conferences and has suggested keeping posts which have not been filled for 6 months vacant for the year.

A second area of university reform is in the equally urgent derelict examination system. On this, the UGC has achieved an important break through in getting the universities in the Country to agree that the marking system is inferior to the grading system – a truth which has been accepted and acted upon by other countries over 2 decades ago. The UGC report refers to marks as reflecting any one or more several facets of an examinee —ability, knowledge, memory, intelligence, power of expression. So one examiner may be assessing one quality and another quite a different one. Further, the marking system assumes the existence of a true mark for each script – there is of course no such thing and the same script marked by a group of examiners showed an error above five on the part of 50 per cent of them. This means that the marking inaccuracies can make the difference between passing and failure, between I class and II class and so on for the students. And so the UGC recommends that the marking system be replaced by a five grade system showing—outstanding, very good, good, fair and poor. Under such a system there will be no failures, students can reappear for their examination to secure higher grades, and the businesses and universities would have a less unreliable basis in evaluating students for jobs or for admissions for other courses. This reform plan is to be introduced in 12 selected universities, of which Madras University is one. The grading system also has its defects but the reform includes continual internal assessment so that the examinations become part of the teaching process, together with a system of question banks under which a student can pick up any of the printed cards from the bank. A third reform proposal is to extend university

correspondence courses. At present there are 12 universities which have such courses, The UGC has offered Rs. 5 lakhs for a period of four years to any university which starts such courses in the vernacular languages. This is a good move as part of the package to develop out-of-college or informal education in the universities—at least one in each State. It is a pity that there is a restriction of these courses to vernacular languages. In the same line, the open university project has now reached the legislative stage, and the next session of Parliament will approve the bill on this. Fourth the plea for autonomous colleges in the State has once more been reiterated by the Minister of Education. At the Ethiraj College silver jubilee celebrations he repeated his view that colleges in the State must be made autonomous as a means of inducing inter-collegiate competition in quality and standards. It was suggested that a start would be made by making post-graduate colleges autonomous. At the school level, the union ministry of education survey of school reading habits makes depressing reading. It shows that a primary school student on an average reads less than one book a year, while a European primary school child reads five books a year. 12 of the 88 surveyed schools do not have a library, 80 of them had a total of 7,208 books, that is a half a book per student. Primary schools spend 6 paise per student in library books and 19 per cent add only 5-20 books a year. If the primary level at which basic skills are learnt, then they must have adequate learning materials. This is also needed for out-of-school education for drop outs at this level. At the secondary level out-of-school non-formal education is to be promoted by throwing open secondary examinations to private students, encouraging private study and correspondence and other courses. This basic reform proposal that schools and colleges should be made to shed their monopoly of education and education should be had anywhere it can be had—on the farm, factory or office, that it is a life long process was once more emphasised by the Prime Minister at the Ethiraj college silver jubilee celebration. One profound implications of this doctrine for the Country's learning system need to be worked our and put into operation. One such break away instrument is the experimental television programme being launched in 1975 under which 50,000 villages will receive educational programmes. In the South, Andhra and Karnatak villages in clusters will be in the programme as each cluster will have one image with two languages. When the Indian satellite goes into orbit in 1978, it will cover all villages uncovered by terrestrial TV in the Country, and broadcast in all our languages. This could become an educational instrument equally powerful with the school and for illiterate adults a more powerful one.

Science:

The Central Building Research Institute, Roorkee has developed a simple, cheap and effective method of water proofing for a mud house. The water proof material based on asphalt is sprayed over mud walls. It combines with clay to make the wall surface water proof. This would be of particular assistance to our rural housing programmes, given the acute shortage of cement. Following the decision of CSIR to be more actively and directly involved in development programmes of the States (see Vol II No 10 pages 28 and 29) but avoiding some of the diversion of the main task pointed out then, the council has set up joint machinery with the government of Uttar Pradesh to help specific industrial projects. It will advise on the techno-economic viability of schemes which can be done better by others and which constitutes the only diversions. CLRI will help in getting raw

materials processed into industrial products in the case of leather, crushed bones and glue, its CEERI at Pilani will help set up 2 industrial electronics estates at Kanpur and Agra, and its CSIO and NAL will help set up an instruments industry in the State and produce sophisticated items both at Kanpur and Lucknow. CSIR is also taking up technological consultancy work for a number of industrialists in the State. The first project in the CSIR-UP co-operative effort is being extended to all States in schemes to convert the animal wastes of our 12,000 slaughter houses into industrial raw materials. CLRI has developed the techniques of converting animal bones, blood, intestines, hair and other slaughter house wastes into valuable materials. The 27,000 tonnes of sheep and goat intestines will be converted into surgical sutures, powders and sheets for healing burns and eubes, the blood is to be made into poultry feed, being 80 per cent rich in protein content and cheaper than fish or cereal feed, the nitrogen rich hair is to be converted into much needed fertilisers and bones into gelatine. When industrially developed, this programme will also be a large foreign exchange earner. In the atomic field, work on the fast reactor design at Kalpakkam has reached a stage, in co-operation with French experts on the design of the fast breeder test reactor, when construction will soon begin on a large proto-type fast breeder of 500 MW. This will be an Indian programme with Indian know-how and equipment and should be completed within the next 2 years. The satellite ATS-F on loan from NASA during 1974-75, referred to earlier, will be followed by purchase of a satellite from another Western Country. With the channel allotted, the satellite communications centre at Ahmedabad will beam programmes to the satellite which will feed them to the 5 regional centres and also to the 20 terrestrial T. V. transmitters to be located in various cities. As many villages are not electrified, battery operated T.V. sets are also being designed. In the area of science and technology there are two basic problems which demand further attention. First is the problem of the labour force explosion and unemployment. It has been estimated that at the present employment growth rate of 39 percent in the organised sector, it would take 300 years for us to absorb our unemployed. Second it has also been estimated that the average productivity of the Indian worker is 1.9 percent of the American worker. Whether or not these statistics are soundly based, there is need to plan and implement policies regarding technologies appropriate to this Country and really work on labour intensive technologies. For this the existing bodies the DGTD, the CSIR, the SSIDO and the small cell in the ministry of Industrial Development on intermediate technology are a useful start. What is now needed is a kind of technical consultancy body combining engineering and socio-economic expertise which will help in (a) upgrading technologies (b) adapting imported technologies to become labour-intensive and (c) design our own labour-intensive technologies. Such a programme should be operated in several centres from the States and co-ordinated by a Central group. As forecast in Vol. III pages 653 this State's Perspective Plan for science and technology was finalised at the end of September, and presented to the chairman of the commission in October. The highlights of the Plan can be briefly summarised.

Current Status :

The State has an impressive number of scientists and technologists. As of April, 1971, there were 1,14,800 scientists and engineers and 82,630 arts and commerce graduates and post-graduates. Basic re-

search is undertaken in the three Universities and in MATSCIENCE. The Tamil Nadu Agricultural University and the Government's research station have pioneered over 100 agricultural break throughs. The 12 engineering institutions headed by the Indian Institute of Technology have maintained a high level of teaching and are developing as R & D centres. The State and Union Government laboratories have developed several designs and processes todate. R & D units also exist in some of the public and private sectors units. On the other hand basic research is neglected, the organic links between the engineering institutions and national laboratories and industries are weak or non-existent, there is no interaction between industrial, agricultural and social science research, medical and education research is absent, there is no R & D the mass needs of the people and the private sector is not playing its role in financing the State's R & D.

Policy Directives :

Against this background, the Perspective Plan lays down seven directives for the development of the State's R & D Plan. The first directive is that the State's R & D Plan should be the outcome of the growth and spread of the science and technology infrastructure in the State. Second all R & D programmes before approval should be subjected to cost benefit tests and/or during their currency to cost utilisation studies to ensure that they are commercially viable and have a minimum pay off. Third all R & D programmes are to be derived from and meet the goals of the Tamil Nadu Perspective Plan. Fourth Science and Technology programmes ahould be inter-disciplinary and R & D projects problem oriented. Fifth all R & D programmes should have organised links with their industrial counterparts and in the case of new industrial R & D projects, preference should be given to those which are located in their manufacturing concerns. Sixth the Science and Technology plan should be a function of a closely established order of priorities. Seventh machinery should be established to ensure that the R & D programmes follow the agreed and established priorities.

R & D Projects :

90 R & D projects at a total cost of Rs. 55 crores for the Perspective Plan period are proposed. They cover in Agriculture, Rainfed agriculture, New cropping pattern for the irrigated areas, Agro-based industries, Seed technology, Farm management and marketing, Extension methodology, Production designs of farm machinery, tools and implements, Horticultural crops in hill areas; in Forestry research; in Veterinary, Evolving new dairy breeds, new breeds of swine, and new strains of sheep: in Fisheries, Assessment of marine fisheries resources in the inshore region, Experimental fishing with medium and large vessels, Local fishery problems—Investigation and Assessment; in Irrigation and Ground Water, Real time computer simulation, Recycled irrigation, Sedimentation in regeneration of the river basins, Soil and water management, Ground water in hard rock area, Water and well location investigation, Artificial recharge, Abstraction of ground water, Drilling techniques, in Industry, Standard Cloth, Edible Oils, Sugar Technology, Small Industries - Technical Consultancy Cell, Research on raw materials, Infrastructural facilities research, Ancillaries research, Sericulture research, Industrial co-operatives research, Marketing and qualities research and Leather research; — in Minerals, Magnetic iron ore mining, Sources of alumina, raw earth and building stones; in Roads and Road Transport, Data processing for Highways Research Stations, Fly ash for rural roads, Precast culverts, Quarries,

Bridge structures, Load carrying capacity of roads, 600 tonne test floor, Coastal and water logged areas, Low grade road aggregates, Payment strength and surface enrichment, Load bearing capacity of foundation piles, Vibration study on rain-forced, concrete and prestressed Test tract, Transportation research, Traffic and Transportation studies; in Fuel and power, Electric Energy System, Dynamic Power study—mathematical modelling and analysis, Relay and protection engineering, Augmentation of power supply, Improvement of plant factor, Transmission losses, Insulation studies of power equipment, Corrosion of insulator fittings, Economisation of rural electrification; in Water Supply, Water treatment for rural water supply, sewage treatment and re-use, New construction techniques, Sewage flow patterns, Industrial wastes treatment, Public health engineering Research and Development; in Urban Development, Urban Development and Housing; in Health and Family Planning Bio-medical research in family planning and reproductive physiology, Bio-chemical investigations disease in man, Research haematology and anaemia among pregnant women, Clinical pharmacology, Research on rural filariasis, Efficacy of BCG vaccination, Diabetic research, Occupation Therapy and social therapy, Genetic Disease—Oral cancer, Retinal clinic; in Nutrition, Longitudinal and cross sectional study of boys and girls; in Education, A project for the re-eduction of school drop-outs, A scientific study of the developmental trend of the 'performance intelligence' of pupils in the schools of Madras city, Housewives' knowledge of the factors in child growth, rearing and healthful living, Drop-out survey, School teachers' professional growth, Internal assessment, Institutional planning; in Management, Tamil Nadu Economic Research Foundation, Individual Industries study, professional management in Tamil Nadu, the minimum needs programme in District Administration, The absenteeism in Labour turnover; and, in Overall Goals, Social factors affecting innovation acceptance, Reduction of poverty, caste and hierarchy, Agrarian structure.

Science and Technology Infrastructure :

All this has a direct impact on the teaching and research institutions in the State during the Perspective Plan period. Provision is made for creating the Madras University of Technology to organise advanced study and research in the 12 engineering colleges in the State. Special projects in this complex include Computer centres in the Guindy, Coimbatore, Madurai and Tiruchy colleges, a Centre for ocean engineering and marine sciences, a Centre of urban engineering, Analog and Digital simulation of the Cauvery Delta—all at the College of Engineering, Guindy, Material science education and a Centre of Automotive engineering at the Madras Institute of Technology, Chromepet, and Bio-medical engineering at the Indian Institute of Technology, Guindy. The Tamil Nadu Agricultural University is to be expanded and a college of Veterinary sciences and Fishery sciences added to it. In addition an Urban Development and Housing Manpower Centre and a Water Institute are to be developed to provide its science and technology infrastructure for the R & D perspective plan for the State.

Finance :

The financing of the Rs. 55 crores R & D programme is based on 10 per cent being provided by the private sector and the balance being shared between the Union and the State Governments in the ratio of 70 : 30.

Machinery :

For formulating projects, supervising their execution, assessing their costs and cost-benefits, 10 sectoral research councils are proposed: Agricultural Research Council, Forestry Research Council, Fisheries Research Council, Veterinary Research Council, Power Research Council, Water Council, Council of Medical Research, Council of Education, Research and Training, Housing Research Council and Industrial Research Committee. Each of these sectoral Councils will have the competent Minister as its Chairman, the senior scientist as Deputy-Chairman and scientists and administrators as members with its secretariat located in one of scientific institutions or government departments. The overall policy setting Council will be the Tamil Nadu science Foundation which will establish policy, set priorities, allocate resources, monitor execution and co-ordinate the entire programme. Its Chairman will be the Chief Minister and its members representative of the sectoral councils, the five Universities and the N.C.S.T.

Health :

The Union ministry of health has once more stated at the recent regional meeting of WHO, that our family planning programmes have prevented 13 million births. Attention was called at the meeting to the increasing number of non-communicable diseases like cardio-vascular and mental health ailments and cancer which poses new threats to the Country's health. Through collaboration between the CSIO and the medical profession, an electronic blood gas meter has been devised to measure instantly the amount of oxygen and carbon dioxide in the blood. Another automatic device has also been developed to measure blood parameters in 500 patients and analyse simultaneously 12 different substances in the blood plasma. This will also revolutionise the process and procedure of diagnosis of disease and health of people. The general debate for the establishment of a Medical university in this State (embodied in the reports of the Task Force on Health, Family Planning, Nutrition and sanitation and the State plan for Science and Technology) (see Vol II No 9 pages 32-34 and Vol. III page 654) has been carried forward by the decision of the Mysore State to establish a university of Health Science incorporated in a Bill introduced in its legislature in early September. The university will bring together the 10 medical colleges, 2 dental colleges, 2 pharmacy colleges, the nursing college, 7 ayurvedic colleges and four other institutions like the All India Institute of Mental Health and the Institute of Aviation medicine in that State. The university will organise co-ordination among the different branches of the medical faculties, promote the development of medical science and remove the current obstacles to the movement of medical students who are scattered between the 3 universities of Mysore, Bangalore and Karnatak with their differing regulations and curricula. The Indian Medical Association, the Indian Medical Council and the Committee on the system of Medicine have been urging this development. In light of this, the Tamil Nadu position on establishing a Medical university needs to be reviewed. The Minister of Education has declared himself in favour of a medical university for the State. The 14th annual conference of the Indian Society of Gastro-enterology in mid September in Ootacamund was the occasion for calling attention to the need to exploit indigenous resources for treatment of digestive diseases and combating the chronicity of digestive disorders. Such a programme could also have long range wider effects on arousing the health conscience of the people and developing preventive measures. The toll of malnutri-

tion in a small district like Ramanathapuram where 8,000 children in the age groups 7-8 go blind was underlined together with simple measures of food precaution which can obviate this tragic disease. Simultaneously a seminar on population education for headmasters in the district worked on curricula for high schools and basic training schools, to make students sensitive to the importance of spacing births and controlling the size of families on the occasion of the foundation stone ceremony for the Rs. 18 lakh college and hospital of Indian Medicine at Palayamkottai, the Minister of Health called attention to the provision of Rs. 1.87 crores in the Fifth Plan for the further development of siddha medicine. Further research is needed on the rare and potent siddha drugs which are popular and need to be further popularised in a scientific manner. Also the Rs. 1 crore expansion scheme for the medical colleges at Tirunelveli, Coimbatore and Chingleput as recommended by the State Planning Commission (see Vol II No 9 page 34) and incorporated in the Fifth Plan by the Government as a means of increasing the supply of doctors for our rural areas was referred to and commended to the medical profession.

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V. Employment

In 1973, the Country has 1.3 million scientists, engineers and doctors. which is the third largest scientific and techinical group in the world, next only to US and USSR. About 10 percent of our scientific and technical personnel — 1,04,000 persons—are engaged in R & D. The institutional infrastructure for the group consisting of 2,000 research units in different research councils, institutions and universities headed by a Cabinet Minister for science and technology and machinery such as NCST, S and T wing of the Planning Commission, a cabinet sub-committee on S and T, the Atomic Energy commission, Space Research Organisation, defence R & D, CSIR, ICAR and ICMR constitute an impressive record. Despite this, the productivity of our scientific and technical personnel is low—computed at 20-25 per cent of the average world scientists. They become more productive than their foreign counterparts when they go abroad as 10,608 of our medical graduates did in 1966-67 comprising 23.63 percent of our technological brain drain, second only to our engineering drain. According to the 1972-73 annual report of the Ministry of Health we are short of 40,330 doctors. Our available strength is 1,30,530 against the 1,70,870 needed, and yet we have unemployed doctors because the rural areas are starved of their services. This in part traces back to the kind of medical education given to our doctors. Again we have 1,00,000 unemployed engineers and technicians, when our 80,000 rice mills function with unskilled workers and little of intermediate and indigenous technologies are available to meet the needs of the people. Here again engineering education and training are defective. Of the 60,000 agricultural graduates, if 20,000 were used in R & D and training, 40,000 could be used to provide agricultural advice, one for each

2,000 – 3,000 hectares of cultivated land, provided there is an assurance for the farmer of regular inputs. The problem of unemployment in the science and technology group traces back in part to changing our education and training system so that they can help to create and find employment opportunities that the Country needs. The Union Planning Commission's September review notes that in 1972-73 the various employment schemes made a contribution to meeting the problems of employment—though only to a marginal extent. The drought prone and rural employment crash schemes generated a total of 167 million mandays of employment, MFAL and SFDA schemes enrolled 2.53 lakh people and secured Rs. 19 crores of loans, the educated employment programme provided 3.73 lakh employment for the 2 year period 1971-73, including employment for 15,000 engineers. The Rs. 100 crores scheme is just starting. Its bottlenecks are coming to light (see Vol. III pages 655 and 659) and the commission, RBI and the Banking Department of the ministry of Finance have joined together in establishing guidelines for public sector banks to finance adequately self employment ventures and overcome the kind of problems analysed in the earlier issues of the Bulletin. The two basic problems that need to be tackled are the slow growth of the economy which does not provide employment and self employment opportunities in anything like the employment demand caused by the population growth of the fifties and sixties on the one hand and the defective educational and training system, on the other. These have produced the labour force explosion and the unemployability of those educated and trained. It is these basic issues which must be dealt with in the Fifth Plan to solve the unemployment morass that we are caught in. The September course on manpower training run by the Institute of Applied Manpower Research in Madras was an attempt to help middle level executives from the public and private sector in planning for the mounting productivity, personnel and problems of organisational change that they face at the micro level.

In the State the government created in September 10,200 posts in recognised schools to provide jobs to unemployed teachers. This Rs. 150 lakh scheme established 500 higher grade posts, 6,000 secondary grade posts, 500 physical education posts, 1,200 BT posts and 2,000 posts for craft teachers. Also in September, the Syndicate Bank started 3 schemes in the State to promote the self employment of doctors. The schemes involved grant of Rs. 5,000 as loan for setting up independent practice, larger loans to 2 or more doctors who set up polyclinics and Rs. 10,000 for dentists. As more such schemes are set up, it should be possible to ensure a more adequate coverage of the health demands of the State in rural areas.

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VI. Other Items

ICSSR Review Committee:

The Ninth and final session of the ICSSR Review Committee was held on September 28 in Lucknow and September 29 in New Delhi. In Lucknow the Committee participated in the inauguration of the university inter-disciplinary group organised by its chairman Dr. Baljit Singh, Pro-

fessor and Head of Department of Economics, Lucknow university, and the release of 5 publications by the Folklore and Ethnographic Society of Lucknow university. The university has a long tradition of inter-disciplinary studies. The committee also met with the social scientists and on the basis of their specific reports had a very useful meeting with the Governor of Uttar Pradesh who is the chancellor of all universities in the State, the Vice chancellor of Lucknow university and the adviser on education. (The State is under President's rule). Agreement was reached on the university procedures and modalities that would advise and promote social science research in the State. The Committee also started its final review of the draft report during its Lucknow session and continued and completed it the next day in New Delhi. The report was signed by all members at 12 noon on Saturday the 29th September. It is a report in two volumes—Vol. I analysis, conclusions and recommendations regarding the status of the social sciences in India and the work of the Indian Council of Social Science Research and recommendations for the future growth of the sciences and Council and Vol. II which is largely a statistical appendix. The report was presented to the council in early November. The conclusions and recommendations Report will be summarised in the next issue of the Bulletin in the special section.

Atomic Energy Establishment Kalpakkam :

The Atomic Energy Commission has established two projects at Kalpakkam, about 70 kms. South of Madras, adjacent to the tourist resort of Mahabalipuram and a few kilometres South of Tirukalikundram. The first is the power reactor station which is under construction. The construction programme for the first reactor is nearing completion and that for the second is well under way. The reactor is the Canadian type which is being made by Indian firms under the supervision of the Commission. It incorporates all the improvements that the Tarapur installation has suggested and will become critical by 1976. The position of the Canadian government in not supplying some of the parts for the reactor referred to in the Vol. III of the Bulletin (page 645) has increased the cost of the installation but has not lengthened its timing. The 50 metres underground tunnel which runs over 500 metres into the sea and which supplies the plant with cooling sea water is almost complete. It has been constructed in such a way as to allow for future expansion of the Station by 2 more reactors. Here the economics of expansion of the existing plant against the advantages of the geographical spread of atomic establishments should be carefully weighed in arriving at a decision on increasing our atomic power plants. The second project is the fast breeder reactor project which is coming up in the adjacent site and is being constructed more quickly. In this project, both fundamental and applied research is combined and the advanced techniques used in its construction and operation feed back and feed into the power station. The two projects have developed two attractive and well laid out townships which have been carefully planned and provided with all the educational, commercial and cultural facilities needed by this community of over 5,000 persons. The project is well run, efficiently and economically staffed, relying for a large part of its engineering and scientific skills on consultants drawn from other parts of the Country. It is a model of a programme which has a unified combination of research, development, production and sale and as noted in the State plan for Science and Technology indicates the future direction of our R & D programmes.

International Literacy Day and Indian UNESCO Executive Committee :

In September, two meetings of the Indian UNESCO executive committee were held to plan the discussions with the Director General of UNESCO on the occasion of his visit to the Country in connection with the International literacy Day on September 9. The main results of these discussions were to develop programmes in education, science and culture of a regional nature which would make possible co-operation among all the Asian countries. At the second meeting India's suggestions for UNESCO'S programme and budget for 1975-76 were discussed and finalised. Apart from proposals for intensifying UNESCO Asian programmes in the natural and social sciences, and co-operation with International Institute of Tamil Studies and a new international campaign to be launched for the conservation of the Ajanta frescoes which are endangered by weather and human neglect, the main recommendation was that UNESCO'S education programme should be restructured so that the priorities of lifelong education in a just social order set forth in the Edgar Faure Commission Report may be implemented. The proposal is that UNESCO's education programme should be organised around five or six task forces dealing with the problems of expanding and unifying formal and informal educational streams into a single system, the development of work based learning systems, the promotion of teaching technologies and techniques for such a system, the problems of social justice and social change. The International literacy day was celebrated on 9th September, at a ceremony in Vigyan Bhavan when the two annual medals were awarded to literacy groups in Chile and Tanzania, with a special commendation to the Mysore Adult Education Society. The day was used to remind governments and peoples that illiteracy still is growing in our world as an economic blight and the worst form of social injustice. Under these conditions, it may be necessary for the UNESCO literacy committee not to make the two awards next year, because governments are still engaged in mere pilot attempts in this field. Such a decision may waken them to the need for undertaking a massive literacy programme to deal with the massive problem of illiteracy in the Country and the world.

Science and Technology Plan :

The third and final meeting of the Committee of the State Planning Commission to approve the Science and Technology Perspective Plan for Tamil Nadu was held on Wednesday the 19th September. It approved the Plan summarised earlier submitted to it as the result of the projects developed by 15 working groups of scientists, agricultural specialists, engineers and industrialists.

Seminar on Plan Implementation :

The Seminar on Plan implementation organised by the Madras Institute of Development Studies and the Institute for Techno-economic studies, Madras, was held at Rajaji Hall, Madras on October 26 and 27 attended by 80 planners, economists, administrators from this and other States, district collectors, Panchayat Union Presidents and members of the State Planning Commission and Administrative Reforms Commission. 12 papers were read and debated at the Seminar inaugurated by the Chief Minister and concluded by Mr. M.G. Raja Ram, Deputy Chairman of the State Planning Commission. The decision of the Seminar appears as the third article in this issue. An account of its proceedings will appear in the next issue of the Bulletin.

Third Meeting of the Heads of Social Science Departments of the Southern universities.

The third meeting of Heads of Social Science Departments of the Southern universities, with the co-operation of the Indian Council of Social Science Research and the Southern Regional Centre of the Indian Council of Social Science in Hyderabad, will be held in the seminar room of the Madras Institute of Development Studies on Friday, the 21st and Saturday, the 22nd December, 1973. Two social science department heads from each University have been invited to attend the meeting.

The purpose of the meeting is to discuss the progress and problems of social science research in the Universities, the follow up of the recommendations of the report of the Indian Council of Social Science Research Review Committee and to plan the research methodology programme for 1974.

The programme proposed for the two days will be :

Friday, the 21st December, 1973

10 a.m.—1 p.m.	:	Discussion of the reports on social science research in the Universities. A two page note from each member will serve as the basis for discussion.
2.30 p.m.—5.30 p.m.	:	The follow-up of the recommendations of the Indian Council of Social Science Research Review Committee report—A note by Dr. M. Abel.

Saturday, the 22nd December, 1973

10 a.m.—1 p.m.	:	Research Methodology Programmes (a) Post M.A. course on research methodology (Heads of Departments who have introduced such courses will submit a one page note on the courses for discussion). (b) An inter-disciplinary research methodology seminar in the summer of 1974—A note by Dr. Malcolm S. Adiseshiah.
2.30 p.m.—4 p.m.	:	(a) Work on production of text-books in social science in English and the national languages—oral report by members. (b) Approval of record of dicisions.

October Development Seminar :

The paper for the October Development Seminar, Examination Reform, by Mr. S. V. Chittibabu, Director, School Education, Tamil Nadu together with a summary of the discussion of the paper at the Seminar chaired by Mr. J. Ramachandran, Principal, Presidency College, Madras, appears as the first article in this issue.

Second Article :

A paper on Dimensions of the Problem of Unemployment appears as the second article in this issue.

Decision on Plan Implementation :

The decision of the Seminar on Plan Implementation as stated earlier, appears as the third article.

Correspondence

Two letters on the October Development Seminar paper on Examination Reform appear in the correspondence section of the issue.

1974 Bulletin Subscription

Subscribers are reminded that their annual subscription for the *Bulletin*—Rs. 9 for those residing in India and U.S. $ 2 or its equivalent for those residing abroad—should be paid by December 31, 1973 for Indian residents and by February 28, 1974 for foreign subscribers. In order that you may continue to receive the Bulletin without interruption and maintain your name on the mailing list, please send in your subscription to the Institute before the closing dates indicated above.

EXAMINATION REFORM

By

MR. S. V. CHITTIBABU, M.A., B.T.,

Director of School Education, Tamil Nadu

Attacking an exotic system of education, the futility and artificiality of which not only disenchanted but also deeply pained him, Dr. Rabindranath Tagore, one of the greatest teachers of mankind said once "Why penalise one examinee for clandestinely carrying prohibited papers in his pocket with a view to copying his answers thereform and why reward another for carrying the whole book inside his head for the same purpose?". It is but only natural that a critical thinker like Tagore who throughout his life time fervently and passionately pleaded for an education that brought out the hidden talents of an individual instead of keeping them under restraint should take up cudgels against a system of examination that puts a premium on the mnemonic ability of a student, taking little note of his other faculties which deserve recognition and encouragement. Be it noted that examination as such is not anathema to any right-thinking educationist. He knows that it is verily a significant part of the teaching-learning process that goes on in the classroom day after day. He is not unaware of the three major functions that examinations seek to fulfil: (a) The assessment made by a University or a Board of Secondary Education of the performance of students indicates to the world at large as well as to the employing agencies their proficiency, competence and attainments on their completion of various courses of study. (b) Examination is a measurement of the development of the student himself as a result of the educational process he passed through either in a school or a University; (c) It indicates to other Universities the suitability or otherwise of the student for entering different courses of study and training. Apart from these three major objectives, examination, as an integral part of teaching and school work, helps revision which is constantly resorted to by the teacher in one form or another. An earlier lesson is revised, before a new lesson is taken up, in the form of questions, class exercises and homework. A running lesson is concurrently revised by means of intermittent questions. Thus as a natural day-to-day teaching process examination would appear to be inoffensive and innocuous. But it is only when it lends itself to be turned into a rigid and ruthless instrument of selection and promotion that a pandora's box of troubles is opened. School promotion is now decided on the results of the annual examination. Even so Universities award certificates, degrees and diplomas on the results of examinations. The fate of an examinee, whether he is going to be elevated in social status or not, is settled to a large extent by the outcome of examinations. Like an incubus examination haunts the minds of students and particularly so, as the great Doomsday approaches towards the close of the academic term. It is with a sense of apprehension, despondency and desperation that the examinees face the horrid inquisition for they have to secure the necessary pass marks to qualify themselves for what one may call the passports for jobs. Dr. Radhakrishnan's University

Education Commission which probed into the complaints made against the baneful effects of external examinations says in its report : "In our visits to the Universities we heard from teachers and students alike, the endless tale of how examinations have become the aim and end of education, how all instruction is subordinated to them, how they kill all initiative in the teacher and the student, how capricious, invalid, unreliable and inadequate they are, and how they tend to corrupt the moral standards of University life." Observing thus, it hastens to say emphatically : "We are convinced that if we are to suggest one single reform in University Education it should be that of the examinations. We advisedly say reform although we know that in India as elsewhere in the world, dissatisfaction with examinations has been so keen that eminent educationalists and important educational organisations have even advocated the abolition of examinations. We do not share that extreme view and feel that examinations rightly designed and intelligently used can be a useful factor in the educational process. If examinations are necessary, a thorough reform of these is still more necessary."

Flaws in the Present Examination System

Firstly, there is an undue and unnatural accent placed on external examinations with the result that they have a crippling effect on the entire educational process, thereby nullifying its vital purpose. This is mainly due to the fact that the objective of testing is sought to be achieved through a faulty approach. The paper setter sets about to examine the student on what he is supposed to be taught on the basis of a prescribed syllabus which itself is so detailedly drawn up that there is not much scope left for the teacher to organise his teaching in his own way. How the latter is taught does not seem to be any concern of the former. Thus for instance if a subject is taught mainly orally, it is certainly unfair to set questions for written examinations. Setting questions on map-drawing or map-plotting without using maps in the class can hardly be justified. An imaginative and resourceful teacher adopts varied instructional techniques such as lecturing and discoursing, using an effective combination of software and hardware, holding demonstrations, dramatising etc. The question is : Why then should examination be solely a written one ?

Secondly it is an irony that instead of instruction determining the nature of the examination, it is the examination that determines the nature of instruction. No wonder the teacher's goal would seem to be to prepare his students for the finale i.e., the examination, and like the horse with blinkers he sees only this goal and nothing else.

Thirdly an academic examination should ordinarily be expected to test the student's creative thinking and judgment, his powers of comprehension and expression and his memory—in that order. But with the efflux of time what has happened is that this order has been reversed and the student's creative thinking and judgment is seen to have completely gone out of the picture. We have now come to a stage where the annual external examination has come to be looked upon by the student as a colossal gamble. With the increasing pressure of members and the growth of malpractices the whole system of examinations has begun to break down and today examinations are derisively referred to as a farce and a lottery. The student's view of the examiner, says Prof. V.V. John, is similar to Caliban's view of God, as set forth by Browning in "Caliban upon Setebos". Caliban sat by a stream, saw crabs crawling up and decided that God's way with His creatures was like his with the crabs. What he did was to

"Let twenty pass, strike the twenty first
Loving not, hating not, just choosing so."
This is bad theology but it is very much like the ways of examiners of today.

Fourthly, the present type of examinations is designed to measure mainly the academic attainments of students and their progress in intellectual pursuits. It does not seek to test the other aspects of a student's all round development and even if it does, it is done perfunctorily. The present century has witnessed a widening of the meaning and scope of Education. The school of today is therefore expected to concern itself with intellectual pursuits as well as with the emotional and social development of the pupil, his physical and mental well-being, his social adjustment and other equally important aspects of his life. If examinations are to be meaningful and truly purposeful, they must make a total assessment of the all round development of the pupil. Viewed from this angle, the present examination system measures only a fragment of this development, severely neglecting the rest.

Then again, one wonders whether even as test of the intellectual proficiency of the pupil, the examinations of today, mainly relying as they do, on a limited stock of the essay-type questions, do the job well. The findings of the Hartog Report on an Examination of Examinations have exposed the havoc played by the subjective element in assessment by the essay type examination. Irrespective of the subject, examiners gave varying marks to the same script and what is worse, the same examiner gave different marks to the same script after the lapse of a period of time. It is therefore clear that under the present pattern of testing, there is no guarantee that even the intellectual attainments of the pupils are correctly evaluated.

Fifthly, the present system of examination with its emphasis on tangible and measurable results in intellectual attainment at the expense of the intangible effects of a good education such as character training all-round development of personality and cultivation of the finer values in life which it is a hard job indeed to assess has driven teachers, headmasters and principals alike to work in a spirit of unhealthy competition for results in terms of percentage of passes for their institutions. Even society has come to sit in judgment over the performance of a school or a college only with reference to the percentage of success attained by it in the final examinations. Verily then, the annual report is presented by a headmaster or Principal in a manner similar to a profit and loss account submitted to its shareholders by a commercial concern. Because of the fact that examinations are relied upon as the yardstick by which to judge the work of a teacher, the latter feels that he can secure the best results only by spoon-feeding his pupils, with cribs and made-easies, digests and notes of all sorts, thereby fostering a drab and dreary uniformity rather than originality and independent study. It is pretty shocking that notes have crept into even the lower classes today and both teachers and pupils are sometimes, seen to vie with one another in their swearing by them, leaving the text books severely in the cold.

Should Examinations be abolished?

Because of the evils which have come to be associated with the examination system a root and branch remedy has been advocated in certain quarters and that is its total banishment from the domain of education. But as pointed out by several Commissions and Committees on Education, such a drastic course is neither desirable nor warranted. Examinations do have a proper place in any scheme of education.

If only corrective measures are undertaken to make them valid, reliable, adequate, efficient and objective, they will have a tremendously animating effect on the pupils as well as the teachers by providing them well defined goals towards which they may canalise their efforts with consistency and constancy of purpose. While the pupil gets a hall mark recognised by all, the teacher has before him certain standards common to all of his fraternity and therefore universal in character. In fact an analysis of the replies to the questionnaire circulated by the Committee on Examinations set up by the Central Advisory Board of Education in 1970 reveals that nearly 80% of the respondents are in favour of public examinations though some of them stress the urgent need for certain modifications. And expert opinion is generally in favour of examinations—both internal and external-with a rationalisation of their structure in relation to the broad objectives of education for the simple reason, that teaching, learning and examination actually constitute a unity of functions.

Suggestions for the Improvement of the Examination system :

I. **Internal Assessment :**

As has been discussed above, the one grave drawback of our existing examination system is that it fails, to fully identify the true worth of every student. Since it is seen that it is overweighted in favour of testing only the intellectual attainments of the student, the imbalance needs to be rectified by bringing in the internal assessment scheme which will facilitate a continuous evaluation of his development in such directions of no less importance, as the growth of his interests, aptitudes, and personality traits, his social adjustments, and the practical and social activities in which he willingly *participates.*

Any well-designed educational programme purports to impart some knowledge to the student. It also aims at training him in the art of applying this knowledge to real life situations. He is assisted in developing creative thinking. His interests, attitudes, aptitudes personality traits and skills are to be so developed as to harmonise them effectively with his intellectual growth. And the entire educational programme within the class-room and outside is directed towards the realisation of this primary goal. Viewed against this background it is but understandable that considerable imagination and vision, thought and research are called for while formulating a challenging curriculum with well defined instructional objectives. As an essential component of this curriculum there should be provision for a continuous evaluation of the student's progress. It need hardly be pointed out that the link between the curriculum and evaluation is forged by the objectives embedded in the former. While instruction is directed to the realisation of the objectives, evaluation finds out which of the objectives, have been realised and if not, what modifications in methods or programme ought to be made—Thus evaluation is an essential supplier of feedback information which is of great value to further teaching.

Certain *pre-conditions* need to be fulfilled if we are to be sure of a worthwhile evaluation of a comprehensive nature. If for instance the internal assessment scheme tried out in such States as Bihar, Madhya Pradesh, Andhra Pradesh, Vidarbha and Punjab did not work satisfactorily, it was because the operational procedures of this assessment were not properly worked with the result there developed a tendency on the part of institutions to boost up individual marks which widely varied from the marks given in external examinations. Rajasthan is presently studying this problem carefully with a view to evolve better techniques of internal assessment.

(a) One of the requirements of a good programme of internal assessment is the development and clarification of the national objectives of education at different stages and also the instructional objectives of different subjects.

(b) The second requirement is the development of suitable instructional material for achieving the objectives and the basic ingredients of such instructional material are: (i) selecting the objectives to be realised through a particular course content; (ii) analysing the course content into its constituent parts and relating them to the objectives; (iii) listing the various pupil activities directed towards the realisation of the objectives through the specific course content; (iv) spelling out the teacher's work in this regard; (v) listing the material aids needed for the purpose and lastly (vi) listing the evaluation tools to be employed. This is indeed an exacting job and cannot be carried out except by a teacher with a certain expertise and experience.

(c) The third requirement is the development of essential evaluation tools, keeping in view the different areas to be assessed. These tools include the following: (i) Written tests prepared by the teacher for being periodically administered for the purpose of effectively examining the pupil's attainment in relation to the objectives and the units of the course. (ii) Standardised Achievement and Ability tests for forming an idea of the standing of individual pupils in a large group and also of the comparative position of an institution; (iii) Questionnaires, rating-scales checklists, etc. which are needed for data collection and assessment in the non-scholastic areas like physical growth and efficiency interests, attitudes, personality traits etc. (iv) Practical and oral tests in such subjects as science, language etc. (v) Observation and interview for assessing the student's progress in any area—academic or non-academic. (vi) The anecdotal record which throws light on some significant events in the life of the student as observed by the teacher (vii) the cumulative record which by far constitutes the most important aid for getting at a total picture of the student at a particular point or over a period of time.

(d) The fourth and the most important requirement is the development of adequate machinery for internal assessment. This means the provision of the minimum physical facilities which alone can set the congenial climate needed for a satisfactory programme of internal assessment and the organisation of training programmes for teachers, headmasters and supervisors without which the whole programme will end in a fiasco, knowing as one does the lack of technical know-how on the part of a majority of our teachers in this respect.

Extending this principle of internal assessment from the school to the College should pose no problem though some doubting Thomases may say that while the public examinations make an 'objective' evaluation of a student's attainments, sessional or continuous assessment has the shortcoming of being "subjective". In fact sessional evaluation takes care of a sphere of activity which a public examination can hardly assess and both are complementary to each other. It is hoped that with the necessary training an experienced teacher by continually watching the responses, reactions and attitudes of a student to various situations and by assigning suitably designed tasks, can make a consistently faithful assessment of his performance with reference to the specified objectives.

The question has been raised whether with the adoption of the internal assessment scheme, external examinations may

be given the go by. Examining this point the Committee on Examinations of the CABE refers to the different shades of opinion on the relative value of external examinations and internal assessment and points out how 73% of the respondents to its questionnaire are in favour of internal assessment-cum-external moderation. I personally feel that for sometime to come there should be no adding up of the external public examination marks with those of internal assessment for the purpose of declaring final results. The two may be kept apart. As Dr. R. G. Mishra of the N.C.E.R.T. aptly remarks, "adding the internal assessment marks to the external assessment marks after scaling them against the latter implies implicit acceptance of the assumption that external examination marks are definitely reliable which is rather fallacious because giving weightage to internal assessment marks is recommended, in addition to other reasons, to improve the reliability of external examinations". As external assessment covers the academic area, while internal assessment covers areas other than academic, adding marks coming from two divergent areas directly is not statistically an acceptable proposition and this gives rise to the problem of determining differential weights against some criterion before combining them. The considered observations of the Kothari Education Commission will bear repetition in this context: "A system of internal assessment should be introduced as a supplement to the external examination, based on periodical evaluations. The results of these assessments should not be mechanically added to the external marks but kept separate and both should be shown side by side in the final certificate. Passes should be required in both and the division gained in them should be shown separately."

As an effective safeguard against any possible pressure to influence internal assessment it is suggested that marks or grades obtained by a student in an internal assessment should be made known to him at every stage. In fact in some institutions where this procedure is employed, the test papers on any assignment are returned to the students promptly so that they can compare the grading if they want to, and so that they may approach the teacher to get to know how a particular grade is awarded. Thus the students may avoid mistakes in future and at the same time trust the teachers's impartiality in grading.

II. Marks and Grades :

The present system of evaluating by percentiles, i.e., by numerical marks, out of hundred, may have certain points in its favour. But its drawbacks outweigh its advantages. Firstly the 'raw' mark awarded by an examiner is subject to considerable error. A statistical analysis has shown that when an examiner gives a mark to a script, there is 50 per cent chance of his error being more than 5 per cent. This means that when a candidate is awarded a 'raw' mark of 51, the 'true' mark may be either above 56 or below 46 in 50 per cent of the cases. Secondly no one really knows what has influenced the judgment of the examiner—whether it is the candidate's ability to reproduce a mass of facts and figures, or his intelligent analysis of an issue or his powers of expression or a combination of one or more of these characteristics. Consequently the mark assigned may vary from one examiner to another and those who deserve to pass may fail and vice versa. The public in our country unfortunately believes in this inaccurate marking system and thinks that a candidate who secures 60 per cent marks is superior to one who gets 59 percent only. Time was when we did not have adequate scientific knowledge about examinations. But today with a wealth of

tested information becoming available about reliability or otherwise of the system of marking, it is high time that evaluation by percentiles was given up in preference to the grading system recommended by the University Grants Commission in its recent paper circulated to Universities titled "Examination Reform - A Plan of Action". Under this system grading can be done as shown below :

Grouping of Pupils by an Examiner

Classification	*Grade*	*Percentage of Population*
Outstanding	1	7
Very Good	2	24
Good	3	38
Fair	4	24
Poor	5	7

Grade 3 stands for the mean accomplishment of all the candidates appearing in a subject at an examination. Furthermore there is no question of pass or failure. The last grade, namely, grade 5 where the candidate's performance is poor may be looked upon as a failure if one wants to have it that way. But what is now proposed is that all candidates taking an examination are to be assigned one of the grades as mentioned above in a grade system and this is to be indicated in the certificate issued. It is open to a candidate to sit for an examination again and improve his grade if he wants.

If an overall grade is to be awarded, it is suggested that the grades in individual courses may be weighted according to the credit hours of the courses concerned. Thus, if the grades are g1, g2, g3, g4, etc., and credits for courses are C1, C2, C3, C4 etc. the average grade would work out to :

$$\frac{g1 + g2 + g3 + g4 + \ldots}{C1 + C2 + C3 + C4 + \ldots}$$

However there is a feeling that such an overall grading need not be attempted.

III. Setting of Question papers :

Setting a question paper needs to be done scientifically. A well-designed question paper is expected to contain questions of equal merit, covering the entire syllabus. There are several types of questions, such as the essay-type the objective type, the problem type, each of which has its own merits and drawbacks. But the conventional essay-type questions which are believed to test the candidate's ability to comprehend, analyse and organise his thoughts and express himself freely have been holding their sway too long and the time has come for the other types of questions being intelligently combined with the essay type ones so that a truly comprehensive measure of assessment is made possible. The setting of the new type of question papers needs the services of thecnically competent experts and subjects specialists and requires much more time than the conventional type. As greater objectivity validity and reliability should be our concern, the greater cost which the new type of paper setting would entail should not be a consideration.

In its 'Plan for Action' the University Grants Commission has suggested the constitution of a Question Bank. In fact even the CABE committee on Examinations has discussed this proposal earlier and expressed itself in favour of adopting the technique of setting up a Question

Bank to which teachers are encouraged to contribute well-thought out and intelligent questions in the light of the experiments done and problems tackled by them in their classrooms. The merit of this strategy lies in involving a very large number of teachers who thereby got a sense of participation in the process of paper setting. What happens today is that while a few people frame the syllabus, a few others set question papers and often some others are called upon to value the answer papers. This means the majority of teachers teaching the subject do not have the opportunity to feel involved in an examination. Because of this lack of participation most teachers are indifferent and even disdainful. The proposed Question Bank, it is claimed, may eliminate the above defect. The Board specially set up to scrutinise the questions sent by the teachers include them in the Question Bank after carefully selecting the best and rejecting the rest, seeing to it that ultimately all questions are of the standard with reference to the different units of the syllabus. It is from this Question Bank only that the Paper setters should draw their questions for setting a well structured question paper. An interesting aspect of this novel method of paper setting will be that Question Banks will be supplied to the teachers who can prepare their students for the type of questions that are going to be asked. Since a Question Bank will contain a very large number of questions, it will be difficult to anticipate which of the questions will be asked in an examination.

IV, **Conduct of Examinations** :

(a) Paper setters should be appointed at least six months before the actual commencement of the examination and required to set and moderate the question-papers. They should be made to prepare an outline of answers and detailed marking schemes for all the questions set by them at all the examinations upto the first degree level. These should be supplied to all examiners working under the direction of head examiners. Some of the Board of Secondary Education have already organised seminars and workshops for paper setters where the principles of paper construction are examined and discussed. This excellent practice needs to be extended to university examinations.

(b) Where the number of candidates taking a public examination like the S.S.L.C. Examination is pretty large, decentralisation is advisable. The conduct of the examination may be for groups of 10,000 or 20,000 in the case of school candidates and for groups of 1,000 or 2,000 in the case of college candidates.

(c) Code numbers may be given to answerscripts and the system of spot valuation under which examiners are appointed to certain selected centres and required to value scripts assigned to them at random may be adopted. After finalising the "raw" marks, the results in each subject should be converted into grades. The suggestion that general comments on the nature of the question papers should be invited from teachers in schools and colleges and forwarded to the examining authority for their scrutiny and necessary action before the actual valuation starts deserves consideration.

(d) Obsolete methods of tabulation and analysis of marks should be given up and steps should be taken to introduce computerised tabulation for the purpose of reducing the time gap between the examination and the announcement of results.

(e) Another reason for delay in the announcement of results is the practice of examiners undertaking the valuation of an excessive number of answerscripts for the sake of the huge remuneration it fetches.

In the interest of maintenance of standards universities should stipulate the maximum number of answer books that a teacher may accept for valuation during a year either from his own university or from outside.

V. **Some Innovative Measures:**

(i) Some of the recommendations made by the CABE Committee on Examinations merit careful consideration. Thus, for instance, the committee recommends that all recruitment to the services should in future be on the basis of the results of competitive examinations held purpose-wise by the appropriate agencies. Even so admission to institutions should be on the basis of separate entrance basis which should be designed to evaluate the true potential of the candidate for the course concerned. If need be this test should be supplemented by an interview. Due consideration should however be shown to the backward and scheduled classes in view of the traditional handicaps they suffer from. Those who do not find it possible to secure admission to institutions of higher learning should be provided with facilities to benefit by correspondence-cum-intensive training courses.

(ii) While the duration of a secondary education course may be specified as a certain number of years and the minimum number of subjects to be studied may also be laid down, there should be no bar to gifted students completing the course in a shorter period or studying more subjects than the specified number. Thus the school system should be made more resilient and flexible, so that students of varying abilities and competencies may find ample scope for the fulfilment of their aspirations without let or hindrance.

(iii) Every child entering an elementary school should be enabled to complete this stage of education, whatever his ability. It is neither desirable nor necessary to detain him in any class at the elementary level in the name of a formal examination held year after year. There may perhaps be an examination or a test at the end of the eighth standard if only for the purpose of evaluating the satisfactory completion of the courses of study laid down.

(iv) Lastly as recommended by the Kothari Education Commission, autonomous status may be granted to some well-established and reputed institutions as a step towards decentralisation of public examinations. The idea is that such institutions should be left free to arrange for and conduct its own examinations and declare the results. In the beginning perhaps some scrutiny and moderation of question papers and answer scripts by a panel of experts may be necessary for the sake of moderation to get uniformity. But later this may not be necessary because by then the institutions are expected to attain sufficient maturity and competence so as to do things on their own ably and skilfully.

To conclude, examination reform has become an imperative need in the context of a fast changing social order which is not any more satisfied with yesterday's answers to to-morrow's questions. Not only remedial measures for correcting existing defects and deficiencies in our examination system but also positive and innovative steps for improving and strengthening it are called for if public confidence in the reliability and objectivity of our assessment of the educational achievement of students is to be restored.

In our State of Tamil Nadu, so far as the department of School Education is concerned it has moved in the direction of experimenting with the Internal Assessment scheme in certain selected secondary schools at the instance of our Hon'ble Minister for Education whose eagerness

for certain radical changes in the sphere of education is only too well known. The State Evaluation Unit which is a wing of the Directorate of School Education has on its staff officers who have been well trained by the N.C.E.R.T., New Delhi and right now a team of resource persons adequately oriented in the latest techniques of internal assessment are ready to provide the expert guidance to the two hundred and fifty secondary schools which have opted to try out the Internal Assessment scheme on a pilot project basis. Then again the tabulation of our S.S.L.C. results with the aid of the computer which has been adopted since October 1972 is another significant step taken by the Board of Secondary Education for expediting the announcement of the results, while ensuring absolute secrecy and accuracy of tabulation. It is proposed to organise shortly a workshop for paper setters so that the questions asked hereafter will test a wide spectrum of the intellectual attainment of candidates. Research in examination techniques is also contemplated for which adequate funds will be set apart shortly.

It is hoped that with the needed reforms effected in the sphere of examinations, education will in time be saved from the chaos into which it will otherwise fall. In this task the earnest and willing co-operation of all parties concerned—teachers, students and the public—is a desideratum. Otherwise the situation will be rather like what Oscar Wilde said about the weather, namely, that everyone complains about it and no one does anything about it.

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Summary of Discussion

In the discussion of the paper at the Seminar held in the Seminar room of the Institute on Tuesday, October 23rd, under the chairmanship of Mr. J. Ramachandran, Principal, Presidency College, Madras, the author in his prefatory remarks, said that Tamil Nadu is on a programme of reform of the entire educational system. The process of change would not be painless and demanded the sustained co-operative effort of the students, the parents and the institutions involved.

The earlier generation looked upon an examination as an opportunity to prove one's abilities. The approach to examinations to-day stands in striking contrast with its accompanying student violence, undesirable practices and general sense of nightmarish tension, though violence was not so prevalent in the Southern Universities.

The evident flaws in the existing system of examinations are : first an examination in its results is primarily a test of memory and cannot pretend to be an indicator of a student's total abilities; second it is oriented to a rigid syllabus and in effect discourages any effort in depth from teacher and student alike; and therefore, it dominates the instruction process; third the evaluation system is inaccurate and subjective. For instance, the Hartog report underlines the variations in the marks awarded by the same examiner to the same scripts at different points of time and the differing marks awarded to the same script by different examiners at the same time; fourth the questions, principally of an essay nature, were not designed with imagination but were selected almost at random from an accumulated stock of question papers set in previous years. The paper setters approach in general is neither constructive nor imaginative; fifth the emphasis on the percentage of passes in public examinations as an indication of the excellence of an educational institution is like that of a shopkeeper's approach rather than that of a true educator.

However, it is not considered desirable to abolish examinations entirely because they should continue as a component of our educational system as they have a function to perform. This does not obviate the need for reform which should be

quickly introduced, if examinations are to serve their purpose being a test of training given and an information feed back needful for improvement of instruction. The direction in which this reform should take place is indicated in the Central Advisory Board of Education Report on examinations and the State Planning Commission's Task Force Report on Education, Science and Technology.

Some of the specific suggestions for improvement of the existing procedures are: semester system and internal assessment; grades instead of marks; question banks; and a blend of essay and problem type questions. Semester system and internal assessment are not substitutes for examinations but should be mutually complimentary with the assessment of each being kept separate. There should also be an adequate instrument for internal assessment. Successful internal assessment depended considerably on a properly demarcated course content, a clear understanding of the changed and changing role of the teacher and taught and the climate of co-operation in the class room. Marks are an unsatisfactory index of a student's performance and grades are to be preferred. For a reliable assessment, development of evaluation tools is necessary. A question bank for schools was being prepared as an experimental measure in the State. It was suggested that Universities could follow suit.

In reviewing the need for examination reform, attention was drawn to the fact that the examination system was part of the learning process routine, but secondary to the learning process itself and could not be equated with it. Any use of the assessment in an examination as a criterion for admission, promotion or for employment is a basic distortion of its purpose and the educational process. In disciplines such as Engineering and Medicine which demand a high level of skill formation, the extent to which examinations provide precise estimates of the degree of proficiency acquired needs further analysis.

The experiment in creating and utilising a question bank in the Central Electro-Chemical Research Institute, Karaikudi, was cited. There the syllabus was broken up and questions were collected and selected by lots at the time of the examination. The results were not classified into 'failures' and 'passes' but a minimum of 65% marks was set as a standard. Secrecy would be assured under this method. Its applicability to examinations in which a very large number of students appeared was questioned. Another advantage of the question bank was the premium on a thorough knowledge of the subject instead of resort to selective memorisation.

No adequate statistical analysis has been carried out with reference to valuation by marks. An opinion was expressed that at certain levels valuation by marks was satisfactory. To avoid frustration among students and undue emphasis on the marks given, these could be expressed as $X \pm 7$.

It was pointed out that including the Radhakrishnan Commission report, there have been a large number of reports on examination reform. No vital changes have been made, although some superficial modifications have been attempted. The reason for avoiding fundamental change was external to the educational sub-system. A certificate, degree or diploma was a pre-qualification for employment. As long as this link persisted, malpractices and distorted objectives would corrupt any innovation that could be thought of.

There was unanimous condemnation of the influence and pressures brought upon

professors and examiners and policies based on incompetence and nepotism. Reservations were expressed about the capacity of the internal assessment system to withstand these overt pressures.

It was accepted that examination reform was a necessity and it had to be quickly carried out. The innovative suggestions made in the paper merit serious consideration. Comprehensive reform of curricula, methods of teaching and evaluation procedure are essential if the fundamental imperatives of education are not to be lost sight of.

DIMENSIONS OF THE PROBLEM OF UNEMPLOYMENT*

The basis:

Unemployment in the Country has reached staggering dimensions. One of the problems in defining the dimensions of unemployment in India is that its statistical configuration is both too scanty and too heterogenous. Ever since the (Dantwalla) Committee of Experts on Unemployment Estimates stated in 1970 that despite "the desire on the part of the lay public for precise estimates on the vital problems of employment and unemployment", "in the nature of the socio-economic situation (in India), such precision is not possible" [1] there has been no official estimate of the number of the unemployed in the Country. In fact this lacunae trace back to 1966, when the Fourth Plan draft outline, 1966-71, published its computation of the backlog of unemployment at the beginning of the Plan in April 1966, the net additions that would accrue to the labour force during the Fourth Plan and the employment potential of the Plan.[2] That was the last time official unemployment estimates were attempted. The Fourth Five Year Plan 1969-74 made no estimates of any of these magnitudes and referred to the appointment of the Dantwalla Committee to clarify the concepts and methodologies regarding employment and unemployment.[3] In the absence of official estimates, there have been various computations on the problem based on the National Sample Surveys (17th Round 1961-62 to 27th round in 1972-73), the 1961 and 1971 censuses and the work on the data by CSIR., data from Employment Exchange, the Employment Market Information, the studies by the Labour Bureau, Simla, and a number of pilot investigations by universities and research institutions. In view of this somewhat contradictory situation—of there being no official estimates of employment and unemployment and the large number of other computations, in this paper the statistical estimates and projections by the Bhagavati Committee on employment are used.

The unemployed:

The Report of the Bhagavati Committee on Unemployment estimates that in 1971, 18.7 million persons were unemployed.[4] This 18.7 million includes 9 million who worked for less than 14 hours a week and whom the Committee states should be treated as being on a par with the unemployed. This seems a serious under-estimate but little purpose is served in debating and arriving at new one dimensional figures. For Tamil Nadu, the State Planning Commission estimates that, that in 1971, 1.2 million workers were un-

*Extracts from a paper presented by Dr. Malcolm S. Adiseshiah at the Inter Rural Institute Seminar held on 28th October 1973 on Unemployment, its Causes and Cures at Sri Ramakrishna, Mission Vidyalaya College of Rural Higher Education.

1. Report of the Committee of Experts on Unemployment Estimates—page 30, Planning Commission, Government of India, New Delhi, 1970.

2. Fourth Five Year Plan (1966-71). A draft outline—page 106 Planning Commission, Government of India, New Delhi, 1966.

3. Fourth Five Year Plan (1969-74) pages 341-342. Planning Commission, Government of India. New Delhi, 1961.

4. Report of the Committee on Unemployment, May 1973, Vol. I, page 158, Government of India, New Delhi.

employed.[5] The Tamil Nadu estimate does not include those who were working for less than 14 hours a week. If that were added, the unemployed in the sense in which the Bhagavati Committee uses the term, would amount to 2 million.

Rural Vrs Urban:

Unemployment is more onerous in the rural areas than in the urban areas of the Country both in percentage and absolute terms. For 1971, 1.42 per cent of the rural male population compared to 1.35 per cent of the urban male population was unemployed. A further 1.97 per cent of rural males compared to 1.32 per cent of urban males were working less than 14 hours a week. In the case of females the disparity was even greater. 2.1 per cent of females in the rural area were unemployed compared to 0.98 per cent of females in the urban area. So too 1.82 of rural females compared to 1.01 urban females were under-employed, working less than 14 hours a week. In absolute terms 7.7 million were unemployed in rural areas, and 8.46 million were the rural under-employed compared to 1.29 million in the urban areas.[6] The Committee's working group on agriculture estimates that in the rural areas at the end of the Fourth Plan period in March 1974, 7.9 to 21.3 million persons will be unemployed, (the wide range reflecting the range between the unemployed and under-employed. One member of the Bhagavati Committee however feels that the urban unemployment estimate is a gross under-estimate and that the persons working for less than 28 hours which amounts, according to the committee, to 27.2 million persons should be included as the "severely under-employed."[7]

The time trend:

Unemployment has been on the increase over the four Plan periods in the Country. Allowing for all the limitations of the one dimensional estimates of unemployment, and the rather loose guesstimates made by the Plan documents, there can be seen a steady and depressing rise in the number of the unemployed from one Plan period to the next. The Second Plan document (1956-61) stated that there would be 5 million unemployed at the start of the Second Plan, the Third Plan document (1961-66) estimated that the unemployed at the start of the Third Plan would be 9 million and Fourth Plan Draft outline (1966-71) placed the unemployed at 9-10 million at the commencement of the Plan. No firm estimates are available as to the number of unemployed at the start of the Fifth Plan but the Approach document speaks of the labour force explosion that we face which can be a serious threat to growth and stability and as being "the crux of the employment problem."[8]

Labour force projections:

Unemployment in the future is likely to be further aggravated by what the Approach Document calls the labour force explosion. The Bhagavati Committee[9] calls attention to the fact that the labour force of persons aged 15 and above which was 214.64 million in 1971 will be 242.39 million in 1976 and 273.50

5. Draft Perspective Plan Frame for Tamil Nadu 1972-84. State Planning Commission, Madras, 1972.
6. Report of the Committee on Unemployment, pages 156-158.
7. Ibid page 718.
8. Approach to the Fifth Plan 1974-79, page 3 Planning Commission, Government of India, New Delhi, 1973.
9. Approach to the Fifth Plan 1974-1979, page 151, Planning Commission, Government of India, New Delhi, 1973.

million in 1981. This means that while for the 60 year period 1901-1961, our working population increased by 77 million, during the 10 years of the seventies there will be a net addition of around 60 million workers. At present around 1,00,000 new workers a week are entering the labour market looking for jobs and by 1981 this number of new job seekers will be around 1,40,000 per week. As the Approach paper points out [10] that "the babies of yesterday have become job seekers of today" and no programme of family planning, public or private, no surgical operations or conventional contraceptives will have any effect on the numbers entering the labour force. The call on the economy to create every week 1,00,000 to 1,40,000 new jobs (minus those that become vacant due to retirement and death) has a direct relation on the dimension of unemployment that we face.

Inter-State incidence :

Unemployment in its incidence on rural households has a wide variance between States. The Bhagavati Committee reproduces the following table resulting from the intensive type of studies of selected rural households in some districts of the country during 1967-70 undertaken by the Labour Bureau (Simla).

TABLE I

Percentages of unemployed males, females and total persons to the total population of selected rural labour households by broad age-groups.

State	*District within which study was undertaken.*	*Sex*	*Age — groups*			
			Below 15	*15–60*	*60+*	*All ages*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
1. Andhra Pradesh	Mahboobnagar	Males	1.05	1.60	2.50	1.42
		Females	2.02	8.58	5.02	5.70
		Persons	3.07	10.18	7.52	7.12
2. Bihar	Gaya	Males	0.48	6.90	4.90	3.97
		Females	0.52	2.29	1.96	1.50
		Persons	1.00	9.20	6.86	5.47
3. Gujarat	Surat	Males	0.61	3.98	1.06	2.21
		Females	1.95	6.83	2.12	4.25
		Persons	2.57	10.81	3.18	6.46
4. Himachal Pradesh	Chamba	Males	0.63	1.96	1.07	1.34
		Females	0.24	0.34	—	0.28
		Persons	0.87	2.30	1.07	1.62

10. Report of the Committee on Unemployment, page 3.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
5. Jammu & Kashmir	Anantnag	Males	0.80	11.77	2.22	6.52
		Females	1.04	7.66	0.20	4.40
		Persons	1,84	19.43	2.42	10.92
6. Madhya Pradesh	Rewa	Males	1.02	4.94	5.02	2.40
		Females	2.06	12.18	2.51	5.49
		Persons	3.08	17.12	7.53	7.89
7. Maharashtra	(i) Ratnagiri	Males	1.00	7.66	1.31	3.83
		Females	—	10.03	0.66	4.83
		Persons	1.00	17.69	1.97	8.71
	(ii) Wardha	Males	0.98	2.37	4.14	1.93
		Females	1.19	5.38	2.68	3.50
		Persons	2.17	7.75	6.82	5.43
8. Mysore	Hassan	Males	1.32	15.53	0.86	8.03
		Females	1.64	12.27	2.58	6.70
		Persons	2.96	27.85	3.44	14.73
9. Punjab	Gurdaspur	Males	—	0.38	—	0.19
		Females	—	—	—	—
		Persons	—	0.38	—	0.19
10. Rajasthan	Tonk	Males	0.63	10.39	0.80	5.50
		Females	0.74	11.65	0.36	6.16
		Persons	1.37	22.04	1.16	11.66
11. Tamil Nadu	Dharmapuri	Males	1.73	11.19	10.55	7.04
		Females	2.53	20.02	2.78	11.37
		Persons	4.26	31.21	13.33	18.41
12. Uttar Pradesh	Etawah	Males	0.99	5.68	5.48	3.55
		Females	—	0.38	—	01.9
		Persons	0.99	6.06	5.48	3.74
13. West Bengal	Bankura	Males	0.55	3.56	9.85	1.64
		Females	—	4.22	17.33	2.06
		Persons	0.55	7.78	27.18	3.70

Source : Unpublished data from the Intensive Type Studies of rural labour households available through the courtesy of the Director, Labour Bureau, Simla.

Note : (—) denotes 'Nil'

It will be seen that the Dharmapuri District in Tamil Nadu has the highest incidence of unemployment. The results of this study are corroborated by that of the 25th Round of the NSS.[11] The NSS survey shows that Tamil Nadu has the highest unemployment rates—9.5 per cent among small farmers (males) and 6.8 (females), 14.5 per cent among male landless labourers and 8.3 (females).

Under-employment

Unemployment in the Country merges into the much more serious problem of under-employment. It was earlier noted that the under-employed are equal to or three times the number of the unemployed depending on the criterion of the minimum hours per week that are worked. The Dantwala Committee had already called attention to the fact that in an economy like ours under-employment is much more serious than overt unemployment.[12] It pointed out that under-employment involves the possibility of fuller use of idle labour time with one important caveat, namely, that the under-employed perfer more work in their existing occupations and locations rather than working on new or outside jobs. The 25th Round of NSS supports these comments. The incidence of unemployment in this State and others was lower among farmers compared to non-cultivating wage-earners.

The unutilised labour time used as one measure of unemployment was rather small according to the NSS survey. In Tamil Nadu it was 9.5 per cent for small farmers and 14.5 per cent for wage earners. Second and more significant, 35 per cent of small farmers and 46 per cent of wage earners saw little possibility of supplementing their income and 46 per cent of small farmers and 49 per cent of wage earners reported that they could not spare even one member of their households for regular full time employment. These findings have rather serious implications for employment generation programmes.

Educated unemployment

Unemployment among the educated—those with S.S.L.C. qualifications and above—is constantly on the increase. The Bhagavati Committee presents two estimates on this matter. First using the number of educated job seekers on the live registers of Employment Exchanges,[13] it points out that the numbers increased by an annual average of 20.1 per cent, from 9.17 lakhs educated unemployed in December 1966 to 22.96 lakhs in December 1971 and then jumped by 42.8 per cent in the following year to 32.78 lakhs in December 1972. The June 1973 figure of educated job seekers is 36 lakhs[14] which is almost equal to the number of students enrolled in our University institutions. Second the Committee uses the CSIR, analysis of the 1971 Census data and the special cards issued at that time to show that in 1971 the graduate unemployment is most serious among science graduates at 19.18 per cent, followed by commerce graduates at 16.36 per cent and Arts graduates at 15.10 per cent. The highest unemployment among post-graduates was among M.A.s of whom 10.36 per cent were unemployed followed by M.Sc.s of whom 10.05 were seeking employment over

11. Economic and Political Weekly, Vol. VII No. 51 pages 2461, Bombay.
12. Report of the Committee of Experts on Unemployment Estimates page 30 Planning Commission, Government of India, New Delhi, 1970.
13. Report of the Committee on Unemployment, May 1973, Vol. I, page 518, Government of India, New Delhi.
14. Bulletin Vol. III page 589 Madras Institute of Development Studies; Madras.

periods of 18 months and above.[15] In a recent (1972) study of 7.1 million literate youth (ages 18-24) in the Country, it has been estimated that over 66 per cent of them are unemployed upto two years and that the net burden of their unemployment is Rs. 9,865 crores per annum. This annual Rs. 10,000 crores loss includes both the private and social costs of educating this unemployed group.[16]

The income frame

The dimensions of unemployment in the Country must be seen not only in a time frame as analysed so far,—the number of months or years that a person waits before finding employment, the number of days or weeks that a person's labour and/or skills are not utilised—but also in terms of the income earned or not earned by the person. In fact the income frame illuminates more fully and awesomely the dimensions and reality of the problem of unemployment than the time frame. It is also the basic position of the Approach Paper which attributes to mass unemployment, under-employment and very thin employment, the major cause of income inequality in the Country.[17] There are conceptual problems in equating unemployment with poverty but they are no different from the disaggregated multi-dimensional approach with which we estimate unemployment in our particular socio-economic situation – by sex, by region, by occupation, by the hours worked, by education and training qualifications etc. So too poverty is relative to our socio-economic life—our low per capita income, our moralistic approach to plain living and high thinking, our nutritional norms, etc. Taking all these into account we have in a recent Union Government document[18] placed before the Rajya Sabha at its August Session defined those living in poverty as those who are not able to spend Rs. 20 per person per month in the rural areas and Rs. 30 per person per month in the urban areas at 1964-65 prices. On this definition 44.57 per cent of people living in rural areas and 51.34 per cent living in the urban areas are living in poverty. The breakdown by States in the descending order of poverty of the percentage of the rural people is:

Orissa	62.04	Bihar	42.80
Kerala	60.82	U. P.	41.61
Tamil Nadu	50.94	Rajasthan	35.29
West Bengal	50.19	Union Territories	33.24
Karnataka	48.99	Jammu and Kashmir	26.63
Maharashtra	47.02	Punjab	22.69
Madhya Pradesh	46.32	Haryana	21.16
Gujarat	45.59	Assam	18.30

15. Report of the Committee on Unemployment, May 1973, Vol. I, page 112, Government of India, New Delhi.

16. Quarterly Economic Report — The Indian Institute of Public Opinion Vol. IX, No. 4, pages 20-28, New Delhi — 1973.

17. Approach to the Fifth Plan 1974-1979, page 3, Planning Commission, Government of India, New Dslhi, 1973.

18. Statement by the Minister of Planning, Rajya Sabha, New Delhi, August, 1973.

The urban poverty by States is as follows :

Kerala	66.36	Karnataka	51.81
U. P.	62.56	Rajasthan	51.41
Jammu and Kashmir	61.38	Assam	48.51
Andhra Pradesh	57.61	Haryana	48.11
Orissa	57.58	Maharashtra	43.93
Bihar	55.55	Punjab	43.39
Tamil Nadu	55.16	West Bengal	40.18
Madhya Pradesh	54.73	Union Territories	24.12
Gujarat	54.48		

This means that a total of 252 million people in the Country are not working and earning enough to live outside the poverty sector. The parallel figures for Tamil Nadu are 16.9 million in the rural and 6.8 million in the urban areas. The relation between poverty and unemployment in our economy is a complex one. A person may work long hours and full-time as many of our unskilled workers do, without being able to earn enough to support his family above the poverty line. Equally a person who is a member of a joint-family may or may not work full-time on the family farm but may be able to support himself and his family out of the joint-family income. While the conceptual relations between poverty and unemployment need further investigation and refinement, a rule of thumb applicable to our socio-economic situation is that the higher the level of poverty the higher the level of unemployment. Poverty is not a measure of unemployment but it is one of unemployment's major dimensions. That is why increasing the incomes of the poor majority through employment generation and reducing the inequality in income distribution through controlling both what is produced, who produces and how it is produced and incomes transfers from the rich to the poor are the major strategy proposed in the Approach to the Fifth Plan.[19] Employment cannot be created by ad hoc employment schemes. Employment and income must be created together.

Economic and Social Engineering

These dimensions of the unemployment problem trace back to two causative factors. The first is what I would call the economic engineering factor. Our investment policies and substantive programmes in regard to agriculture and allied occupations, industry and mining, health, and family planning and education and training have resulted in the unemployment problem as it faces us. The Bhagavati Committee's 221 recommendations[20] are addressed to raising the levels of employment and income in the Country by optimum use of our economic, engineering, human, social and physical assets. The policies and programmes proposed with regard to SFDAs and MFAL, CSRE, rural water supply, educated employment, major and minor irrigation, power, railway, roads, ship building, tourism, education, family planning, housing, the development

19. Approach to the Fifth Plan 1974–1979, pages 17–20, Planning Commission, Government of India, New Delhi, 1973.

20. Report of the Committee on Unemployment, May 1973, Vol. I, pages 623-705, Government of India, New Delhi.

of weaker sections and backward areas, the incentives schemes, the double and triple shift in industry, tax concessions, development rebates, export incentives for industry, animal husbandry, poultry farming, the growing of sugarbeet, land colonisation and the organisational measures are aimed at this economic engineering aspect. It would involve a re-orientation of our policies on investments, fiscal and monetary practices, land use, wages and labour, exports and imports, industry at all levels and scales, development of our education, science and technology system which will maximise employment and income and family planning programmes which will control future labour force magnitudes. The second factor, which is both a pre-condition and a necessary condition for generating the programme of employment creation and increased and equitable income distribution proposed by the Bhagavati Committee is social change. The unemployment dimension in our Country calls for a change in our institutions and structure—agrarian, industrial, property and political—which all are biased in favour of the status quo of the upper and middle classes, acting as social and political constraints to the best laid plans and programmes. It is here that we must start—to change our structures and institutions. Economic engineering can then follow.

DECISION

of

SEMINAR ON PLAN IMPLEMENTATION

OCTOBER 26 & 27, 1973

AT RAJAJI HALL, MADRAS

Introductory :

1. The Seminar on 'Plan Implementation' meeting in Rajaji Hall, Madras on October 26 and 27 expresses its thanks to the Chief Minister, Dr. M. Karunanidhi, also Chairman of the State Planning Commission for the clear guidance given and major implementation issues demanding solution placed before the Seminar; places on record its gratitude to the authors of the thirteen Seminar documents; felicitates the Madras Institute of Development Studies and the Institute of Techno-Economic Studies for the timely organisation of this meeting on the eve of the start of the Fifth Plan, a meeting which brought together planners, administrators, academicians, district and panchayat union leaders and voluntary bodies; and adopts the following declaration on Plan Implementation as a guide to the Union Government authorities, State Planning Commission, the Administrative Reforms Commission, the Departments of the Government of Tamil Nadu, the District and Panchayat Union authorities, the Universities and Voluntary agencies who are participating *in the formulation* and *implementation* of the State Fifth Five Year Plan.

The Stakes :

2. The Fifth Plan stakes derived from the Perspective Plan objectives-doubling per capita real *incomes, providing full* employment, reducing poverty, assuring social justice, accelerating social change, humanising development and decentralising planning—are high. They are no less than the welfare of the common man in Tamil Nadu. These stakes have now been embodied in sectoral programmes and new and continuing projects in the Fifth Plan. Whether or not this Plan with its programmes and projects will lead to a growing economy, a more just social order and a less unhappy and less discontented poor majority in our State will in part depend on the rate, manner and style of the implementation of the Plan and the execution of its programmes and projects. Here our past experience with the four Plans provides a clear warning; the Plans were good: the planning was not unsound. The failure lay in not implementing the Plans fully and in not executing the projects adequately. Notably the failures *have been failures in achieving social* justice. The gap between Planning and Implementation like that between pledges and performance has been wide and is widening. Alongside of the Fifth Plan that is now formulated, the farces making for failures or shortcomings in the implementation of the Plan must be provided against.

Causes for failures

3. The causes for the failures in the implementation of the Plan are multiple. Some of them are built into our pluralistic

democratic society with its governance by consensus and compromise, which blunts the sharp choice and focus of development issues and delays implementation, and its tendency to intervene at the execution and operational stage in addition to the decision on Plan policies and options which is its rightful field of intervention. But there are three remediable major causes for plan implementation failures. The first is that we do not have adequate managerial, technical and expert staff as we do the administrative cadres to implement the fast growing development functions, programmes and projects of the State and the public sector. Administratively we are still living in the pre-independence, regulatory societal stage and have not equipped ourselves with the necessary expert staff, training programme for the administrative and technical staff and their being located in projects for their full duration. Second we do not have the machinery and procedures which can ensure the full implementation of our Plan and its programmes and projects. Our administrative system needs periodic review to meet the changing face of the economy, our budget procedures including the lapse doctrine need revision, simplification, rationalisation, new meaning and co-ordination. There is no information system to help the staff face new factors which arise, and there is an inadequate monitoring system to send up warning signals of implementation delays or errors. We are trying to execute the Plan with procedures never meant for economic development and we fill the gaps by creating a confusing array of ad hoc institutions and programmes to meet each new situation. Third the whole system of plan formulation and implementation is highly centralised and for the second most populous Country in the world and for a State whose size would place it tenth among the 132 members of the United Nations, such centralization is by itself enough to defeat all realistic planning and effective implementation. The unclear and over-lapping responsibilities for programme execution and project approval as between the Union and the State Governments, the lack of delegation of responsibilities to the local authorities for executing projects within their competence, the absence of annual operational district plans and machinery to execute them, the inadequate participation of Universities, the private industrial and agricultural sectors, voluntary agencies and people generally in the execution of programmes and projects contribute to the growing short falls between plan targets and physical implementation.

Remedial Action

4. In light of these factors inhibiting adequate and full implementation of the Five Year Plans, it is recommended that Union, State and local authorities take into consideration the suggestions made in this declaration for corrective action on both a short term and long term basis. A continuing requirement is for political authority including political parties to require its technical organs to place before it, and through it to the public, in clear and sharp focus the various plan options and implementation alternatives in light of which it can decide on plan policies and strategies. Having so decided on policies and strategies, the political parties should develop a convention not to intervene in project formulation and execution. The other remedial actions refer to restructuration of the planning levels, district plan implementation, administrative reforms, monitoring and evaluation, peoples participation and a programme of training.

Planning Levels :

5. The Plan should evolve from the district level, to the regional level, State level on to National level. The start made in Tamil Nadu to develop district

and regional Plans simultaneously with the State Plan is commendable and should be followed for the Sixth Plan by starting with the first two levels, so that the State Plan is an aggregation of the Plans at those two levels. In some areas such as power, water and perhaps higher education, which should be treated as assets of the nation as a whole, there could be a further level of Planning between the State and National Plans. For the Sixth Plan and even for the Fifth Plan, as resources and needs in these areas cut across State boundaries and make the Southern Zone a natural zone, Zonal plans in these sectors should be developed and jointly financed and executed by the States through Zonal bodies. The National Plan should set forth the National goals and objectives as established by the National Development Council and should be essentially a co-ordination and integrating instrument of plans developed at the various levels referred to above. The central projects to be undertaken in a State should be notified to it so that they may be programmed in an integrated manner in the State Plan. This will also enable the States to contribute to their effective implementation. The Plan and non-Plan resources available to the State (if this distinction is maintained) should be fixed by legislation, so that the Planning exercise though accompanied by applying the legislative provision to particular conditions is freed from bargaining for resources. The machinery and procedures for Plan implementation are those used for the execution of the State's entire development programme. The responsibility for such implementation is that of the State Council of Ministers and its various subsidiary organs.

District Plan Implementation :

6. Plan implementation requires that district plans become the basis for execution of the Plan. For this purpose, the perspective district plans should be translated into operational Annual District Plans. It has even been suggested that the Constitution may be amended to establish a list of subjects which are within competence of local bodies. Without going so far, the operational Annual District Plans should establish physical and output targets for its programmes and projects, co-ordinate the functioning of the several agencies involved in each project and draw on all local agencies, the voluntary bodies and the people in the implementation of the plan. This will involve delegating implementation authority, for the annual operational district plans, once they are reviewed and approved by the Government, to a District Authority. This authority could be the District Rural Development Corporation/Authority. Its functions, membership, secretariat, financial resources and relations, with the Panchayat Union Councils and District Development Councils will have to be worked out in detail by the Government with the assistance of the State Planning Commission and the Administrative Reforms Commission. In this connection, some of the suggestions for consideration by them include the following : The question of making the existing districts smaller in size, with which the Administrative Reforms Commission is already seen should be pursued. The District Authority while being the executive body composed of District officials headed by the District Collector should rely for advice and review of its operations on the District Development Councils. The functions of the District Authority may include drafting the operational district plan and the supervision of its execution which is the responsibility of the departmental officers and the Panchayat Union Commissioners. The financial resource accruing to the authority must be examined with care in relation to any

tax and local mobilisation of resources responsibility given to it. It may also act as banker to the Panchayat Union Councils and be helped financially through making available to it a part of the resources mobilised locally under the Small Savings Scheme and through an apex body like the proposed State Investment Trust. All these may also involve authorising the District Authority to make project changes and transfers within certain limits, developing district allotments in the State budget and equipping it with the necessary Secretariat including accounting services. To begin with, the Authority aided by the District Development Council may be entrusted with implementation of a category of rural development programmes. The entrustment of the functions to cover the rest of the District Development Programmes can be considered in the light of the experience.

Administrative Reforms

7. Plan implementation calls for large investment and manpower with new and varied skills, requiring new organisations and new lines of control, adoption of new techniques of decision making and quicker and more effective lines of communication. Successful Plan implementation thus means that the administrative machinery must be under continuing review for its renovation and renewal through a Standing Administrative Reforms Commission or department which should also be vested with responsibility for monitoring the execution of its approved recommendations. The immediate administrative reforms should include (a) recruiting technical experts who will have the freedom to analyse and advise on problems from the technical point of view and finding and placing the best men required for each job, (b) making the secretarial and executive heads of Departments function as a single self contained unit for implementation, (c) adjusting the budget process and administrative cycle, to the agro climatic requirements of the State involving in particular early notification of budget allotments/sanctions to the district officers and replacing the lapse doctrine by monthly letters of credit, (d) freeing the Finance department from day to day expenditure sanctions so that it can concentrate on recommending investment priorities, and undertake performance audit, cost effective and cost benefit analyses, (e) the system of audit and evaluation to take into account also the importance of speeding decision-making processes and accepting the risks involved in that context, (f) simplifying and reducing industrial licensing procedures, for large and medium industries by the Union Government, and for small industries by the State Government, (g) co-ordinating the functioning of the Department of Agriculture and the Department of Panchayat Development at the State, district, block and village levels, (h) reorganising in a phased manner the department of Highways starting with a Department of Minor Irrigation, (i) strengthening the personnel and devising other means of increasing the efficiency and profitability of public sector enterprises and (j) continuing the separation between overall Planning and administration.

Monitoring and Evaluation

8. A continuous monitoring of the rate and quality of the implementation of all Plan projects should be undertaken by both the head of the Department concerned and a central non-executive organ, preferably in the State Planning Commission, using the services of the data processing centre and the performance budgets of the Departments. Both bodies should report to the State Develepment Committee on the progress of Plan implementation every quarter. The reform of the treasury system referred to earlier simplifying procedures for remittances, payments with financial authority will also facilitate implementation and monitoring.

A core sector comprising of industrial production, irrigation, agricultural production, power generation and transmission and public transportation should be established for the preparation of production oriented or economically viable projects. Special cells of competent persons should be established in these departments to prepare project reports and evaluate their execution. A spot evaluation by a non-executive body like the State Planning Commission of selected projects as a double check, is also necessary.

Participation in Plan Implementation

9. To ensure the widest measure of popular participation in plan implementation, it is necessary for the Universities the proposed State Council of Education, Research and Training, and other research bodies to contribute through their research and research and development programmes, particularly in the neglected social sciences area to both defining plan projects and improving their implementation. For this the financing of research must be increased. Similarly in the industrial sector through the identifiation of new entrepreneurial talent, the enterprises limitation to 5% of the equity capital required of new and the setting up with the help of Government of innovative arrangements such as a construction material, assessment and development agency to overcome the problems of industrial raw materials and infrastructural shortages will improve implementation. The agricultural sector should be regarded as an integrated farm sector involving cultivation, including water management, pure seed supply and grain banks, use agro-industries to promote particular crops with floor prices, farm-forestry and animal husbandry/and should intensify its use of the co-operatives, and SFDA, MFAL and other institutional arrangements to ensure effective execution of agricultural programmes. Voluntary agencies can act as catalytic agents in the villages and undertake innovative programmes to speed the realisation of Plan targets. Their financing should be increased and except for financial accounting they should be independent of Government control and management. The task of implementation is so vast and urgent that there is a question which should be given further consideration. If there can be consensus on the Plan among the political parties should their cadres be mobilised in the implementation of some of the Plan programmes, particularly those involving land reform, housing sites for landless, adult education and literacy, family planning distribution and subsidised distribution of essential goods to the poverty sector ?

Training

10. Training programmes in management Institutes, Universities research institutions and on the job are needed to provide the competence, developing aptitudes and update the knowledge of persons involved in Plan Implementation. In this connection the proposal to set up an Institute of Management in this State is timely. Priority in training should be given to the senior staff using all avenues of training in the State and Country. Such training should be both pre-service and much more post-service and in-service, for training like education is a life long imperative in face of the exploding rate of knowledge, information and technology growth and change. The sponsors of the Seminar, the Institute for Techno-Economic Studies, and the Madras Institute of Development Studies could organise structured training programmes for planners at various levels — the Panchayat Union the districts and the State as a contribution to improve Plan Implementation. In the last analysis implementation of plans depends on motivation and the only adequate motivation is service to the People. That is what implementation dependson. And that is its own reward.

CORRESPONDENCE

I. A NOTE ON THE PAPER ON "EXAMINATION REFORM"

1. The paper is an extremely comprehensive treatment of the subject and incorporates the essential details of the current thinking in India on the subject. The author must be highly commended for the precision and thoroughness with which the issues have been dealt with. The writer considers it necessary to make two points.

2. In page 7, the expression given for working out the average grade does not appear to be meaningful. It would be alright if given as follows :

$$\frac{g_1 c_1 + g_2 c_2 + g_3 c_3 + g_4 c_4 \ldots\ldots}{c_1 + c_2 + c_3 + c_4}$$

   This may please be looked into, *when the paper is printed for larger circulation.*

3. I am in general agreement with the main points made, though there could be considerable differences of opinion with regard to the details as well as the emphasis. I shall not go into a discussion of the details, but like to add another dimension, which is also vital to the problem; but has not been emphasised in this paper, and is not generally considered in the various reports and dicussions on examination reform.

   We have recorded evidence, that since the beginning of our independence when the University Grants Commission headed by Dr. S. Radhakrishnan was appointed, educationists of standing, have realised the limitations and deficiencies of our examination system. In the recent years, the University Grants Commission has brought out atleast two reports, besides the present one on 'A Plan of Action'. The Kothari Commission has strongly indicted the examination system, and so far, no one has seriously defended it either. That being so, one should consider, why this system still continues, without any major change and even at this hour, one does not see any tangible step taken for a significant change in the examination system. This aspect is important and needs to be pondered over.

   Learning is no longer a mere cultural pursuit, valued for its own sake. It is a preparation for life; for a career. The school or University certificate provides a pass-port for avenues to higher education, employment and other opportunities. In advanced countries, a certificate may be adequate to get a job; but it is not enough to retain a job much less to climb up in the ladder. The certificate should have behind it a guarantee of certain knowledge and skills.

   The external system operating in our country is willing to accept a certificate, for reasons that are not quite relevant here, without making any serious effort to see whether the possessor of this document also possesses the skills and knowledge expected of him.

Examination reform is linked inextricably with the admission and recruitment procedures operating outside the purview of the educationists and academic campuses. As long as a diploma or a degree certificate without the commensurate skill and knowledge can fetch admission to higher education or employment for a career, people will try to get the certificate by resorting to short cuts. They will corrupt and neutralise the most efficient system of examination that human ingenuity can devise. In such a situation, the thing that matters is not the system, but the average level of honesty of the Society.

In conclusion, the main point that I wish to stress here is that the success of the measures for examination reform depends not on the educationists and the educational system alone; but very considerably on the values and considerations that influence procedures of selection and appointment at various levels in the existing social and political environment. The problem has greater complexities than normally brought out in the discussion on this subject. The complexities need not discourage us; but to ignore them would be over-simplification.

(Sd.) V. C. KULANDAISWAMY

II. A COMMENT ON THE PAPER " EXAMINATION REFORM "

Assessment of Formation of Skills :

Skills-Formation in students can be assessed by 'Continuous Assessment' or 'Intermittent Assessment' method. It is much closer to the normal teaching situation than almost any other system. It fulfils a major function of assessment, namely, acting as a teaching and learning tool.

Every piece of work produced by the student—essays, projects, practical work, laboratory reports, seminar papers, comments on the seminar papers of his/her colleagues, etc.—should be assessed with the total of all such assessments counting towards a certain proportion of the final overall assessment.

This sort of assessment has three distinct advantages :

(i) Adequate feed back on a student's performance is there available both to the student and to the tutor; this is an invaluable guide to the general development of the student's attitude to a particular discipline.

(ii) The student is given considerable incentive to work at a constant pace throughout the year; the undesirable emphasis on cramming for examination is removed.

(iii) The course work is more akin to the normal situation in society, for instance, discussion with others.

Another technique to assess the performance of Students: The Open Book Exam.[1]

The "Open Book Examination"[1] is in a way an answer to the criticism of Rabindranath Tagore of the traditional examination rewarding an examinee for carrying the whole book inside his head while penalising another for clandestinely carrying prohibited papers in his pocket with a view to copying his answers therefrom.[2]

Candidates take into the examination hall a variety of written material required to answer the questions. The nature and amount of written material can vary from mere mathematical formulae to textbooks. This reduces the need for the student to place too great a reliance on memory, the need for rote-learning. This will result in the improvement of the general study habits of the student. A notable point in favour of this type of assessment is a reduction in the amount of nervous strain suffered by many candidates. While the candidate should not simply reproduce textbook material, he should be able to carefully select within a relatively short period of time which material is vital to him and discard the rest.

(Sd.) B. ARDHANAREESWARAN

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1. This assessment formed part of an Educational Experiment by the author—carried out from July 1966 to April 1968; a report on this under the title "A Remedial Teaching of English for Pre-University Students" has appeared in the journal "Experiments in Education" (SITU Council of Educational Research, Madras; July 1973).

2. Read the opening sentence of the paper by Mr. S. V. Chittibabu.

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Editor : Dr. Malcolm S. Adiseshiah